Pioneer sound.vision.soul

Service Manual

VSX-C301-S

ORDER NO.
RRV2741

AUDIO/VIDEO MULTI-CHANNEL RECEIVER

VSX-C301-S
VSX-C301-K

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Model	Type	Power Requirement	Remarks
VSX-C301-S	MYXU	AC220-230V	
VSX-C301-K	MYXU	AC220-230V	
VSX-C301-S	NVXU	AC230V	

For details, refer to "Important symbols for good services".

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ⓒ**PIONEER CORPORATION 2003**

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SAFETY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 – Proposition 65

NOTICE

(FOR CANADIAN MODEL ONLY)

Fuse symbols (fast operating fuse) and/or (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE

(POUR MODÈLE CANADIEN SEULEMENT)

Les symboles de fusible (fusible de type rapide) et/ou (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

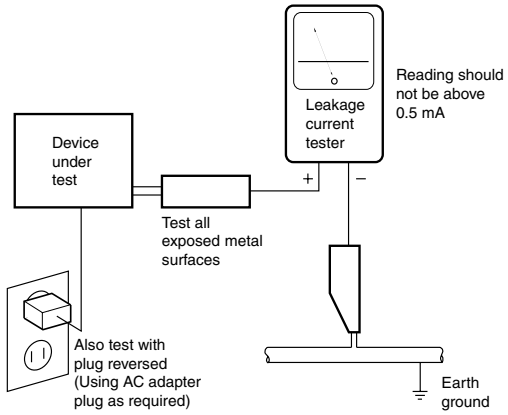
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60 Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5 mA.


Reading should not be above 0.5 mA
Leakage current tester
Device under test
+
–
Test all exposed metal surfaces
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

[Important symbols for good services]
In this manual, the symbols shown-below indicate that adjustments, settings or cleaning should be made securely.
When you find the procedures bearing any of the symbols, be sure to fulfill them:

1. Product safety

You should conform to the regulations governing the product (safety, radio and noise, and other regulations), and should keep the safety during servicing by following the safety instructions described in this manual.

2. Adjustments

To keep the original performances of the product, optimum adjustments or specification confirmation is indispensable. In accordance with the procedures or instructions described in this manual, adjustments should be performed.

3. Cleaning

For optical pickups, tape-deck heads, lenses and mirrors used in projection monitors, and other parts requiring cleaning, proper cleaning should be performed to restore their performances.

4. Shipping mode and shipping screws

To protect the product from damages or failures that may be caused during transit, the shipping mode should be set or the shipping screws should be installed before shipping out in accordance with this manual, if necessary.

5. Lubricants, glues, and replacement parts

Appropriately applying grease or glue can maintain the product performances. But improper lubrication or applying glue may lead to failures or troubles in the product. By following the instructions in this manual, be sure to apply the prescribed grease or glue to proper portions by the appropriate amount.For replacement parts or tools, the prescribed ones should be used.

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1. SPECIFICATIONS

Amplifier section

Continuous Power Output (STEREO mode)

Front. . . . . 40 W + 40 W (DIN 1 kHz, THD 1 %, 8 Ω)

Continuous Power Output (SURROUND mode)

Front. . . . . 50 W/ch (DIN 1 kHz, THD 1 %, 8 Ω)
Center . . . . . 50 W (DIN 1 kHz, THD 1 %, 8 Ω)
Surround. . . . . 50 W/ch (DIN 1 kHz, THD 1 %, 8 Ω)

RMS Power Output

Front. . . . . 75 W/ch (1 kHz, THD 10 %, 6 Ω)
Center . . . . . 75 W (1 kHz, THD 10 %, 6 Ω)
Surround. . . . . 75 W/ch (1 kHz, THD 10 %, 6 Ω)

• Above specifications are applicable when the power supply is 230V.

Audio section

Input (Sensitivity/Impedance) . . . . . 200 mV/47 kΩ
Output (Level/Impedance)
VIDEO, DVR/TV. . . . . 200 mV/2.2 kΩ

Video section

Input (Sensitivity/Impedance) . . . . . 1 Vp-p/75 Ω
Output (Level/Impedance). . . . . 1 Vp-p/75 Ω

FM tuner section

Frequency Range. . . . . 87.5 MHz to 108 MHz
Usable Sensitivity. . . . . Mono:15.2 dBf, IHF (1.6 µV/ 75 Ω)
50 dB Quieting Sensitivity. . . . . Mono: 20.2 dBf
Stereo: 41.2 dBf
Signal-to-Noise Ratio. . . . . Mono: 76 dB (at 85 dBf)
Stereo: 72 dB (at 85 dBf)
Signal-to-Noise Ratio (DIN). . . . . Mono: 62 dB
Stereo: 58 dB
Distortion . . . . . Stereo: 0.6 % (1 kHz)
Alternate Channel Selectivity . . . . . 70 dB (400 kHz)
Stereo Separation. . . . . 40 dB (1 kHz)
Frequency Response . . . . . 30 Hz to 15 kHz (±1dB)
Antenna Input (DIN) . . . . . 75 Ω unbalanced

AM tuner section

Frequency Range. . . . . 531 kHz to 1,602 kHz (9 kHz step)
Sensitivity (IHF, Loop antenna). . . . . 350 µV/m
Selectivity . . . . . 30 dB
Signal-to-Noise Ratio. . . . . 50 dB
Antenna. . . . . Loop antenna

Miscellaneous

Power Requirements
UK model . . . . . AC 230 V, 50/60 Hz
European model. . . . . AC 220 – 230 V, 50/60 Hz
Power Consumption . . . . . 150 W
In standby (AV Direct off) . . . . . 0.4 W
Dimensions. . . . . 420 (W) × 70 (H) × 383 (D) mm
Weight (without package) . . . . . 6.5 kg

Furnished parts

AM loop antenna 1
FM wire antenna. 1
Dry cell batteries (AA size IEC R6P) 2
Remote control unit. 1
Power cable 1
Speaker cable labels 1
Operating instructions. 1
Warranty card. 1

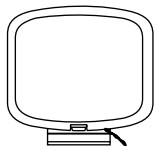
Note

• Specifications and the design are subject to possible modifications without notice, due to improvements.

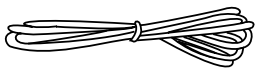
Manufactured under license from Dolby Laboratories. "Dolby", "Pro Logic", and the double-D symbol are trademarks of Dolby Laboratories.

"DTS" and "DTS Digital Surround" are trademarks of Digital Theater Systems, Inc.

● Accessories

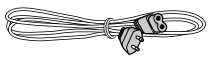


AM loop antenna
(ATB7009)



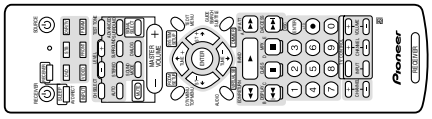
FM wire antenna
(ADH7030)

• Power Cable (MYXU Type)
(ADG1154)

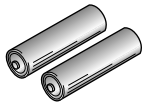


• Power Cable (NVXU Type)
(ADG1156)

• Remote Control Unit
(AXD7348)



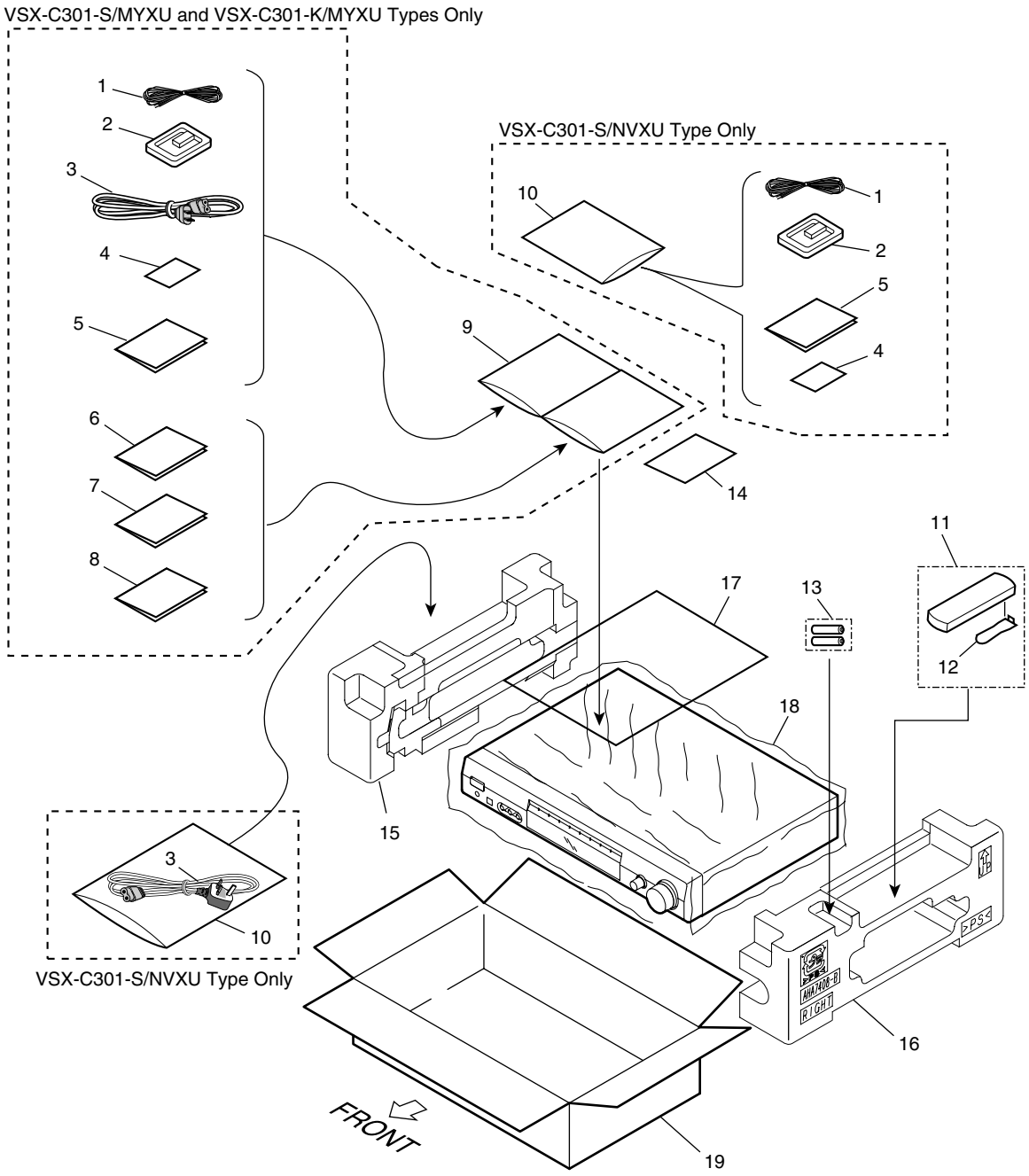
• Dry Cell Battery (R6P, AA)
(VEM1010)



2. EXPLODED VIEWS AND PARTS LIST

NOTES:
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Screws adjacent to ▼ mark on product are used for disassembly.*
- *For the applying amount of lubricants or glue, follow the instructions in this manual. (In the case of no amount instructions, apply as you think it appropriate.)*

2.1 PACKING



PACKING parts List

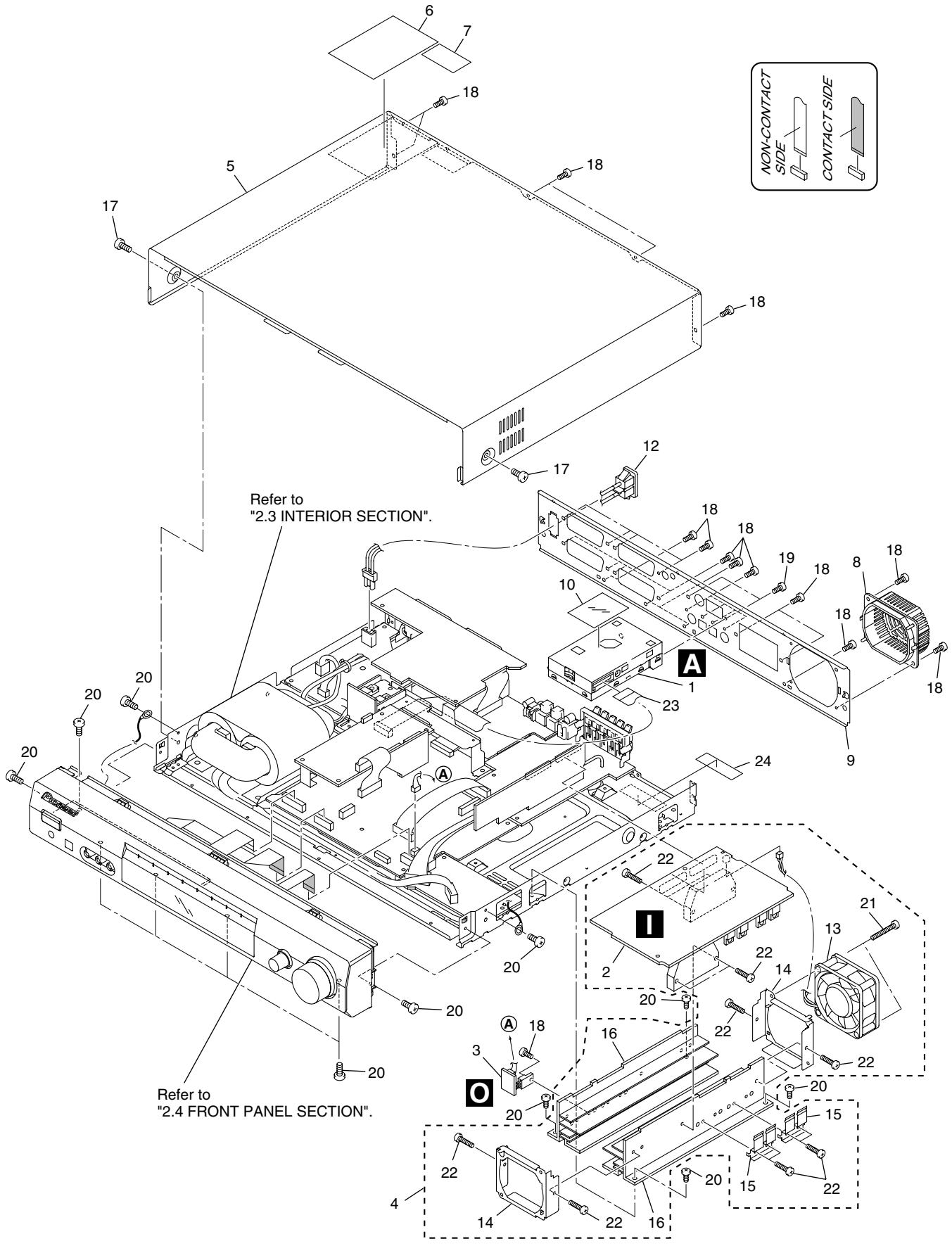
Mark	No.	Description	Part No.
	1	FM Wire Antenna	ADH7030
	2	AM Loop Antenna	ATB7009
⚠	3	Power Cable	See Contrast table(2)
	4	Speaker Cable Label	ARW7163
	5	Operating instructions 301 (English)	ARB7276
	6	Operating instructions 301 (German)	See Contrast table(2)
	7	Operating instructions 301 (French, Italian)	See Contrast table(2)
	8	Operating instructions 301 (Dutch, Spanish)	See Contrast table(2)
NSP	9	Polyethylene Bag (A4*2)	See Contrast table(2)
	10	Polyethylene Bag (0.03*230*340)	See Contrast table(2)
	11	Remote Control Unit	AXD7348
	12	Battery Cover	AZA7424
NSP	13	Dry cell batteries (R6P,AA)	VEM1010
NSP	14	Warranty Card	ARY7065
	15	Left Pad 301	AHA7407
	16	Right Pad 301	AHA7408
	17	Spacer	AHB7088
	18	Packing Sheet	AHG7015
	19	Packing Case	See Contrast table(2)

(2) CONTRAST TABLE

VSX-C301-S/MYXU, VSX-C301-K/MYXU and VSX-C301-S/NVXU are constructed the same except for the following:

Mark	No.	Symbol and Description	VSX-C301-S/ MYXU	VSX-C301-K/ MYXU	VSX-C301-S/ NVXU
⚠	3	Power Cable	ADG1154	ADG1154	ADG1156
	6	Operating instructions 301 (German)	ARC7453	ARC7453	Not used
	7	Operating instructions 301 (French, Italian)	ARC7454	ARC7454	Not used
	8	Operating instructions 301 (Dutch, Spanish)	ARC7455	ARC7455	Not used
NSP	9	Polyethylene Bag (A4*2)	AHG7097	AHG7097	Not used
	10	Polyethylene Bag (0.03*230*340)	Not used	Not used	Z21-038
	19	Packing Case 301SMY	AHD8146	Not used	Not used
	19	Packing Case 301KMY	Not used	AHD8155	Not used
	19	Packing Case 301SNV	Not used	Not used	AHD8156

2.2 EXTERIOR SECTION



EXTERIOR SECTION parts List

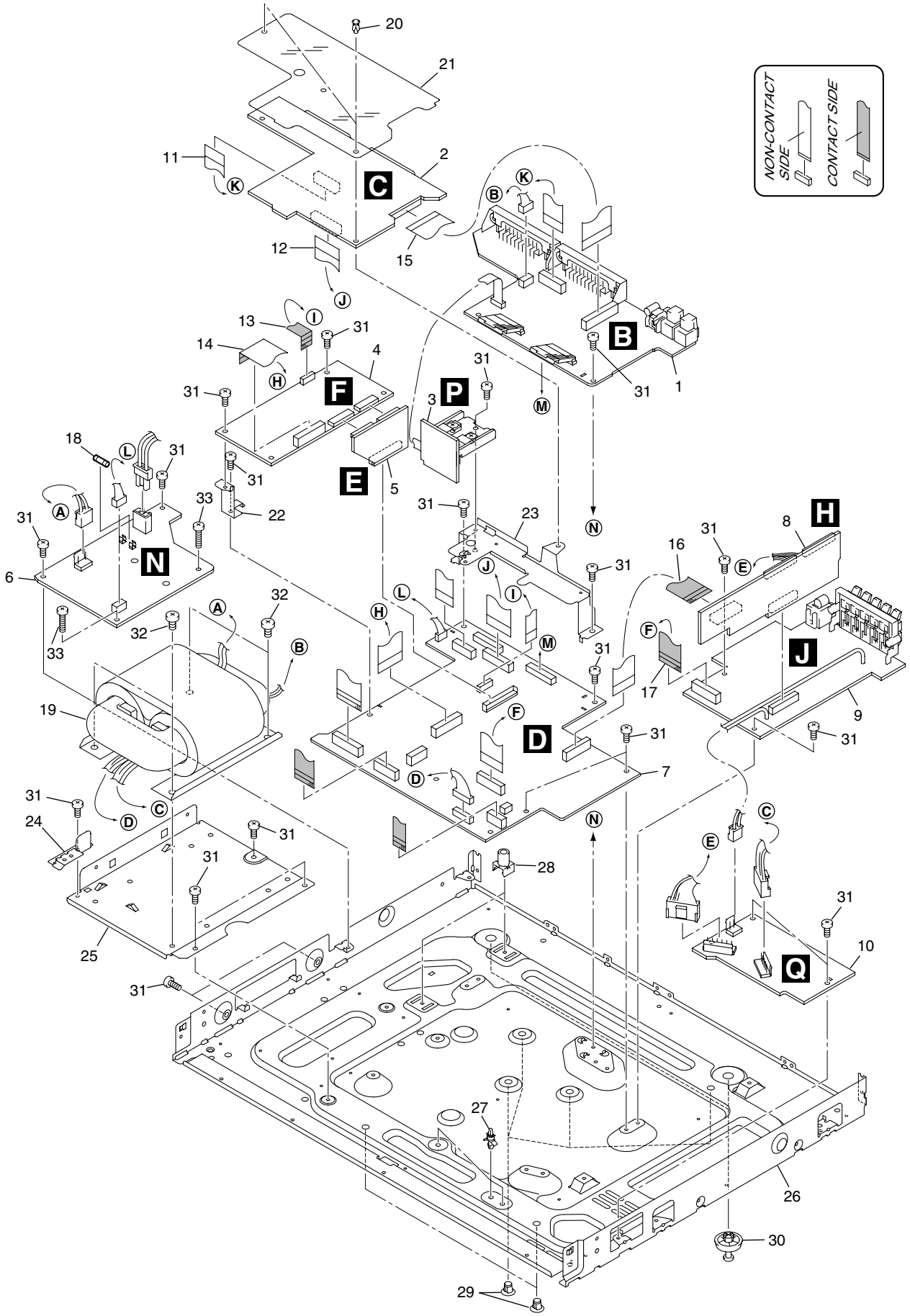
Mark	No.	Description	Part No.
	1	FM/AM TUNER MODULE	AXQ7246
	2	6CH AMP Assy	AWM7786
	3	D5V Assy	AWX8224
NSP	4	AMP MODULE 6CH	AXQ7247
	5	Bonnet Case	See Contrast table(2)
	6	Label	See Contrast table(2)
	7	License Label	ARW7220
	8	Fan Cover	AMR7446
	9	Rear Panel 301SMY	ANC8155
	10	Tuner Barrier	AEC7383
	11	••••••	
⚠	12	AC Inlet Assy	VKP2116
	13	DC Fan Motor	AXM7025
	14	Fan Plate	ANG7462
	15	FET Bracket A	ANG7418
NSP	16	Heat Sink	ANH7161
	17	Screw	See Contrast table(2)
	18	Screw	BBZ30P080FZK
	19	Screw	PPZ30P100FZK
	20	Screw	BBZ30P060FMC
	21	Screw	BBZ30P300FZK
	22	Screw	BBZ30P140FMC
	23	J1905 13P FFC/60V	ADD7402
NSP	24	Label	VRW1629

(2) CONTRAST TABLE

VSX-C301-S/MYXU, VSX-C301-K/MYXU and VSX-C301-S/NVXU are constructed the same except for the following:

Mark	No.	Symbol and Description	VSX-C301-S/ MYXU	VSX-C301-K/ MYXU	VSX-C301-S/ NVXU
	5	Bonnet Case S	AZN7934	Not used	AZN7934
	5	Bonnet Case K	Not used	AZN7935	Not used
	6	Label C301SMY	ARW7210	Not used	Not used
	6	Label C301KMY	Not used	ARW7211	Not used
	6	Label C301SNV	Not used	Not used	ARW7212
	17	Screw	BCZ40P060FNI	BCZ40P060FZK	BCZ40P060FNI

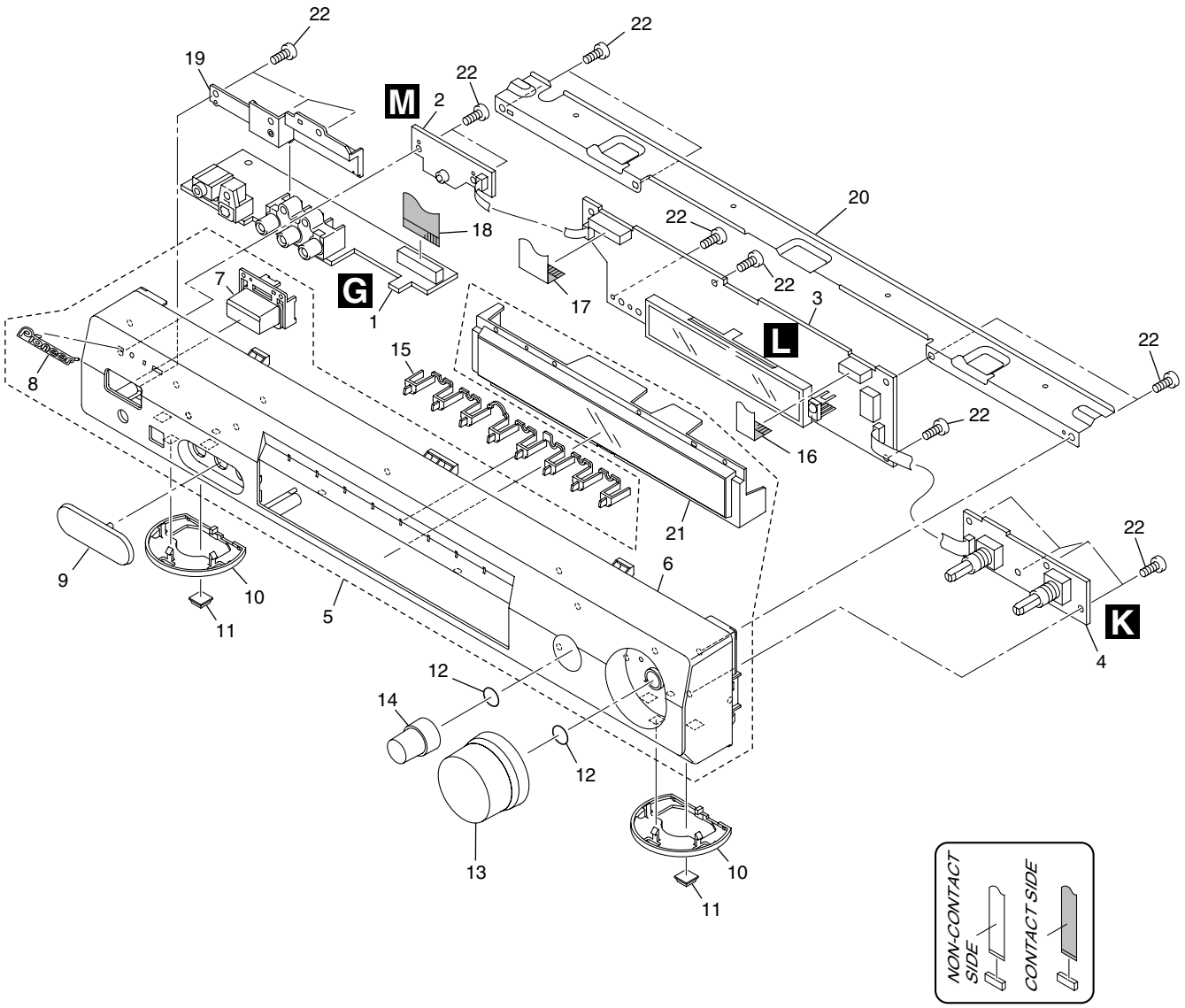
2.3 INTERIOR SECTION



INTERIOR SECTION parts List

Mark	No.	Description	Part No.
	1	SCART-1F Assy	AWX8168
	2	SCART-2F Assy	AWX8169
	3	12V Assy	AWX8170
	4	DSP Assy	AWX8241
	5	DSP KAWA Assy	AWX8167
	6	PRIMARY Assy	AWX8166
	7	MOTHER Assy	AWX8171
	8	AMP KAWA Assy	AWX8223
	9	AMP OUT Assy	AWX8164
	10	VHVL Assy	AWX8237
	11	J1908 15P FFC/60V	ADD7408
	12	J1911 19P FFC/60V	ADD7422
	13	J1906 10P FFC/60V	ADD7405
	14	J1909 19P FFC/60V	ADD7422
	15	J1907 23P FFC/60V	ADD7407
	16	J1901 17P FFC/60V	ADD7398
	17	J1904 17P FFC/60V	ADD7401
⚠	18	FU1 Fuse (T2.5A/250V)	REK1026
⚠	19	T1 Power Transformer	ATS7346
	20	Nylon Rivet	AEC7436
	21	Scart Barrier	AEC7458
	22	Core Stay A	ANG7447
	23	Core Stay B	ANG7448
	24	Jack Stay	ANG7450
	25	Trans Frame	ANG7446
NSP	26	Under Base	ANA7151
	27	PCB Support	AEC7365
	28	PCB Mold	AMR2533
NSP	29	PC Support	VEC1749
	30	Foot	REC-434
	31	Screw	BBZ30P060FMC
	32	Screw	BCZ40P060FNI
	33	Screw	BBZ30P180FMC

2.4 FRONT PANEL SECTION



FRONT PANEL SECTION parts List

Mark	No.	Description	Part No.
	1	FRONT IN Assy	AWX8219
	2	POWER SW Assy	AWX8174
	3	FRONT Assy	AWX8173
	4	ENCODER Assy	AWX8175
	5	Front Panel Assy	See Contrast table(2)
	6	Front Panel	See Contrast table(2)
NSP	7	Power Button	See Contrast table(2)
	8	PIONEER Name Plate	See Contrast table(2)
	9	Front Input Cover	See Contrast table(2)
	10	Insulator Ring	AAK8091
	11	Rubber Foot	VEB1325
	12	VOL Ring	ABH7220
	13	Volume Knob	See Contrast table(2)
	14	Select Knob	See Contrast table(2)
	15	LED Lens 301	AAK8084
	16	J1903 9P FFC/60V	ADD7400
	17	J1902 15P FFC/60V	ADD7399
	18	19P FFC/60V	ADD7422
	19	Jack Cover	AMR7447
	20	Front Frame	ANG7445
NSP	21	Display Window 301	AAK8083
	22	Screw	PPZ30P080FMC

(2) CONTRAST TABLE

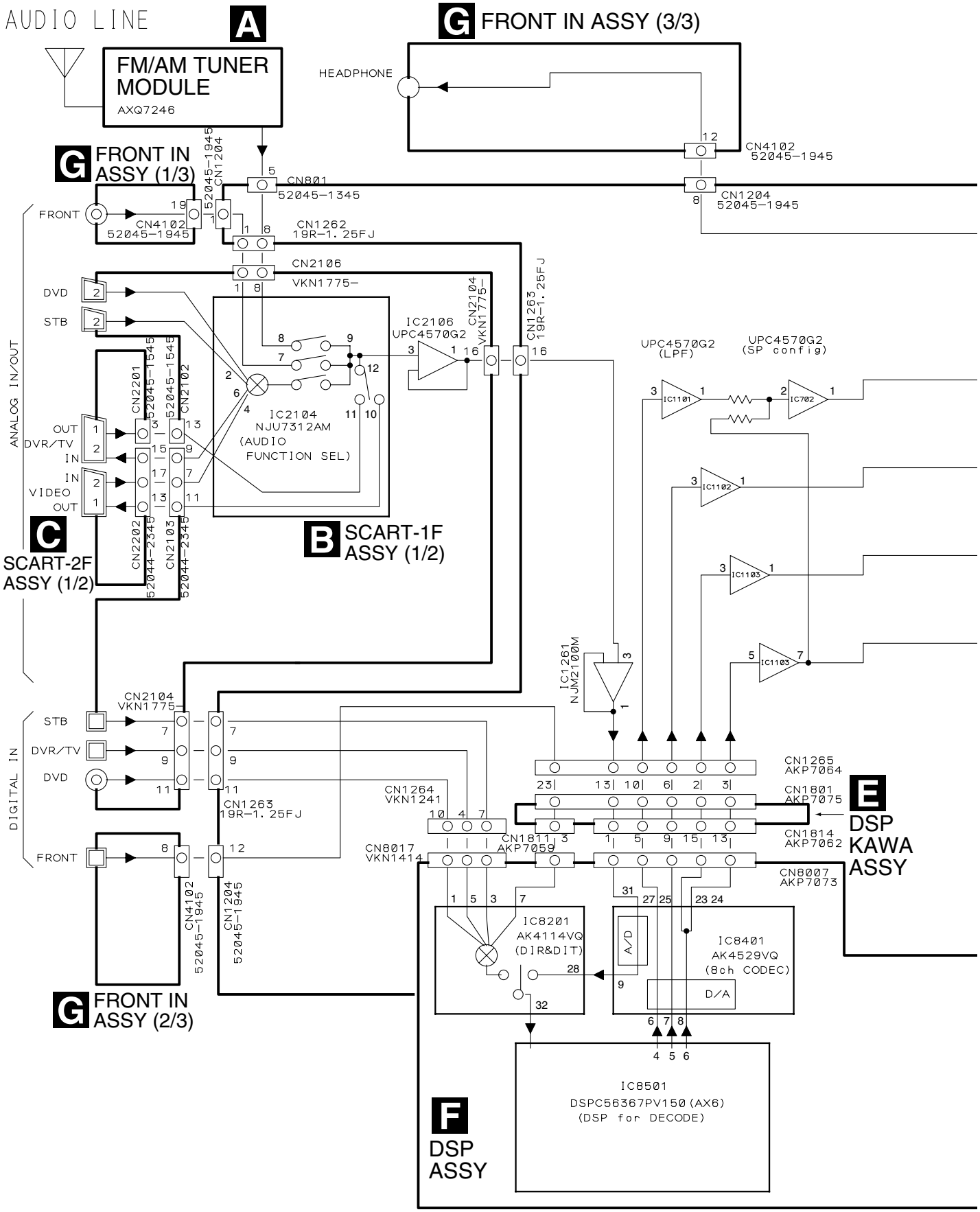
VSX-C301-S/MYXU, VSX-C301-K/MYXU and VSX-C301-S/NVXU are constructed the same except for the following:

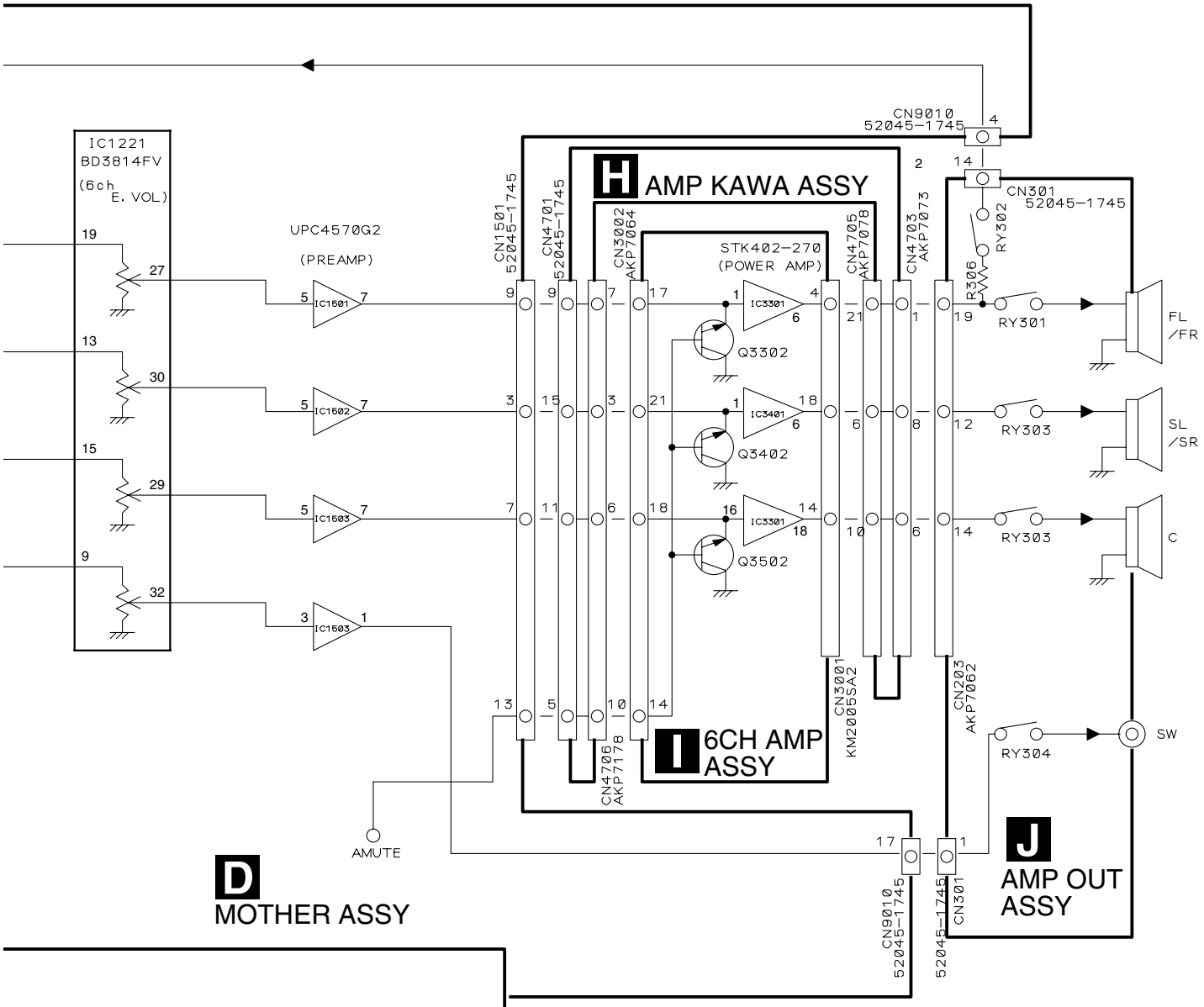
Mark	No.	Symbol and Description	VSX-C301-S/ MYXU	VSX-C301-K/ MYXU	VSX-C301-S/ NVXU
	5	Front Panel 301SMY Assy	AXG7184	Not used	AXG7184
	5	Front Panel 301KMY Assy	Not used	AXG7185	Not used
	6	Front Panel 301SMY	AMB7836	Not used	AMB7836
	6	Front Panel 301KMY	Not used	AMB7837	Not used
NSP	7	Power Button S	AAD7696	Not used	AAD7696
NSP	7	Power Button K	Not used	AAD7697	Not used
	8	PIONEER Name Plate	VAM1129	VAM1130	VAM1129
	9	Front Input Cover S	AAK8074	Not used	AAK8074
	9	Front Input Cover B	Not used	AAK8075	Not used
	13	Volume Knob S	AAB7252	Not used	AAB7252
	13	Volume Knob K	Not used	AAB7253	Not used
	14	Select Knob S	AAB7254	Not used	AAB7254
	14	Select Knob K	Not used	AAB7255	Not used

3. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM

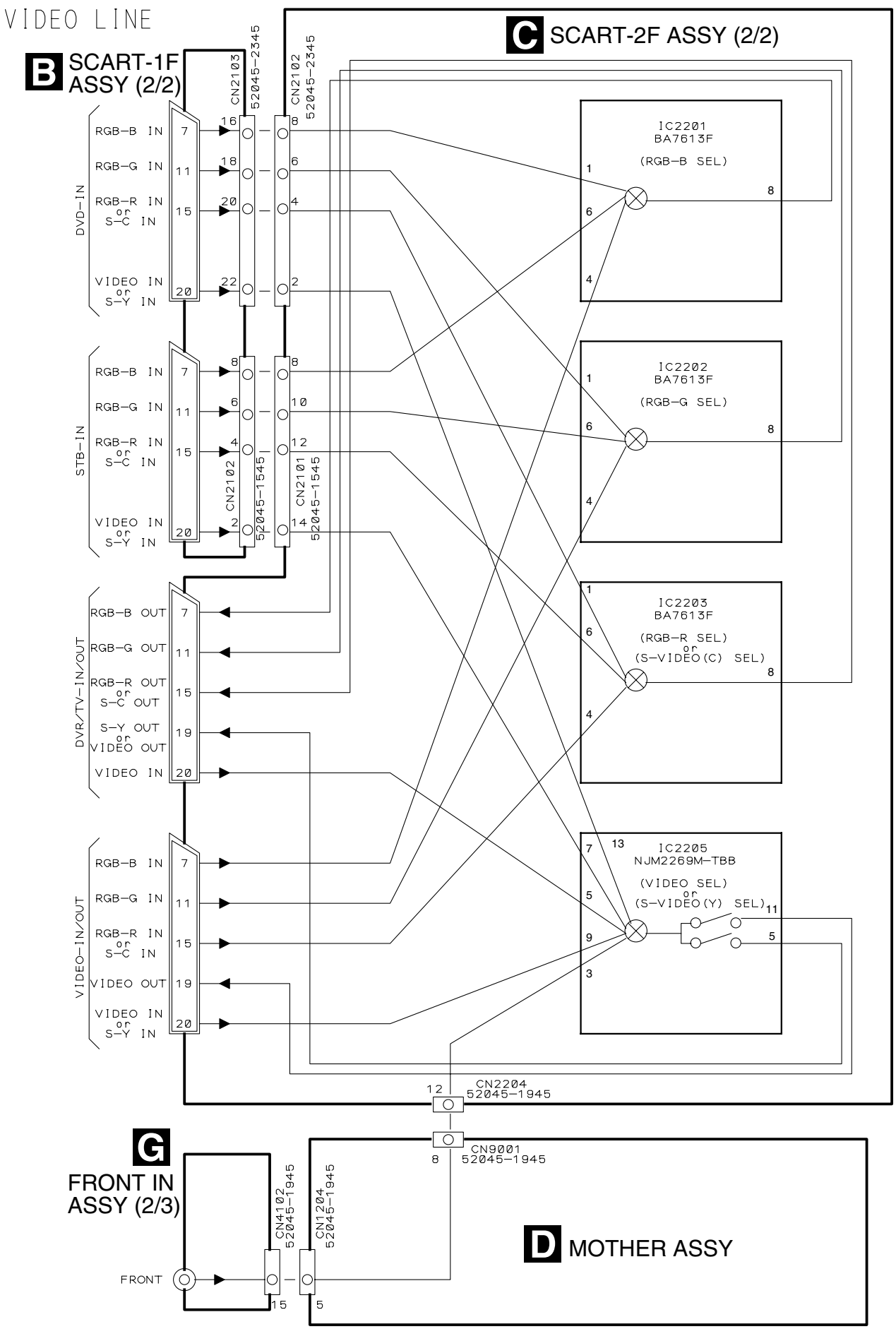
3.1 BLOCK DIAGRAM

3.1.1 AUDIO BLOCK

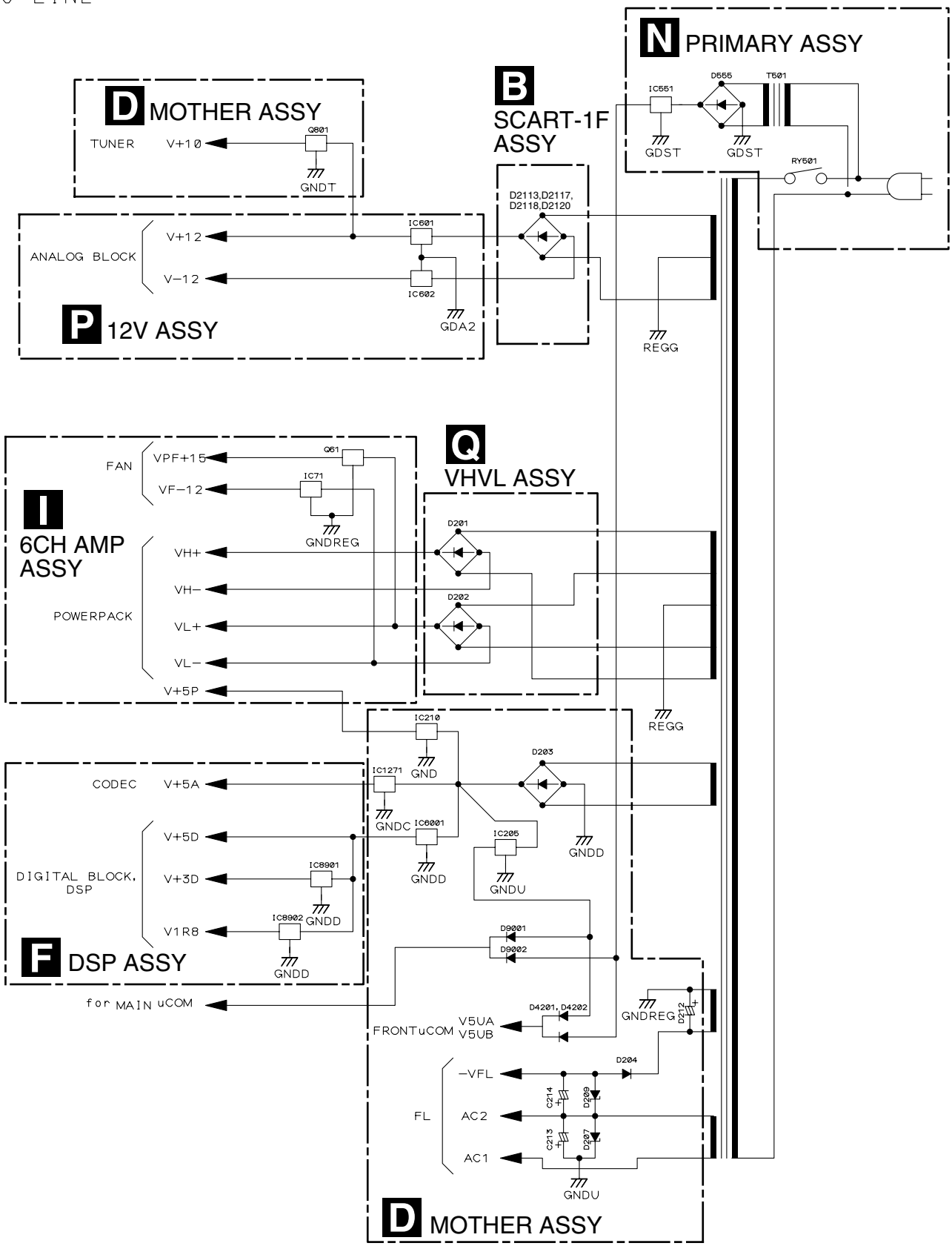



IC1221
BD3814FV
(6ch E. VOL)
UPC4570G2
(PREAMP)
IC1501
IC1502
IC1503
CN1501
52045-1745
CN4701
52045-1745
CN3002
AKP7064
STK402-270
(POWER AMP)
CN4705
AKP7078
CN4703
AKP7073
CN9010
52045-1745
CN301
52045-1745
RY302
R306
RY301
RY303
RY304
FL
/FR
SL
/SR
C
SW
H AMP KAWA ASSY
I 6CH AMP ASSY
CN3001
KM2005SA2
CN4706
AKP7178
CN2203
AKP7062
AMUTE
D MOTHER ASSY
J AMP OUT ASSY
CN9010
52045-1745
CN301
52045-1745

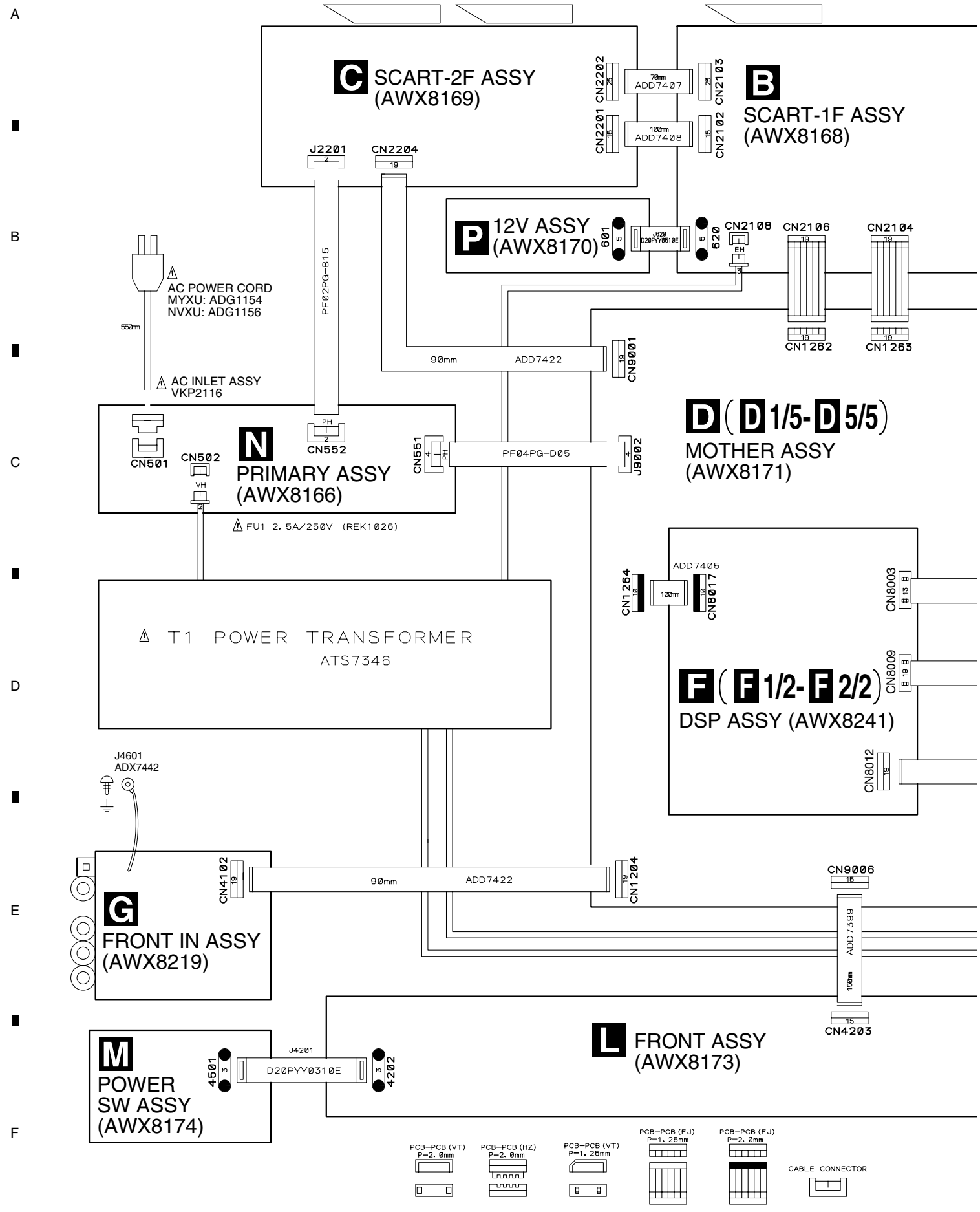
3.1.2 VIDEO AND POWER SUPPLY BLOCKS



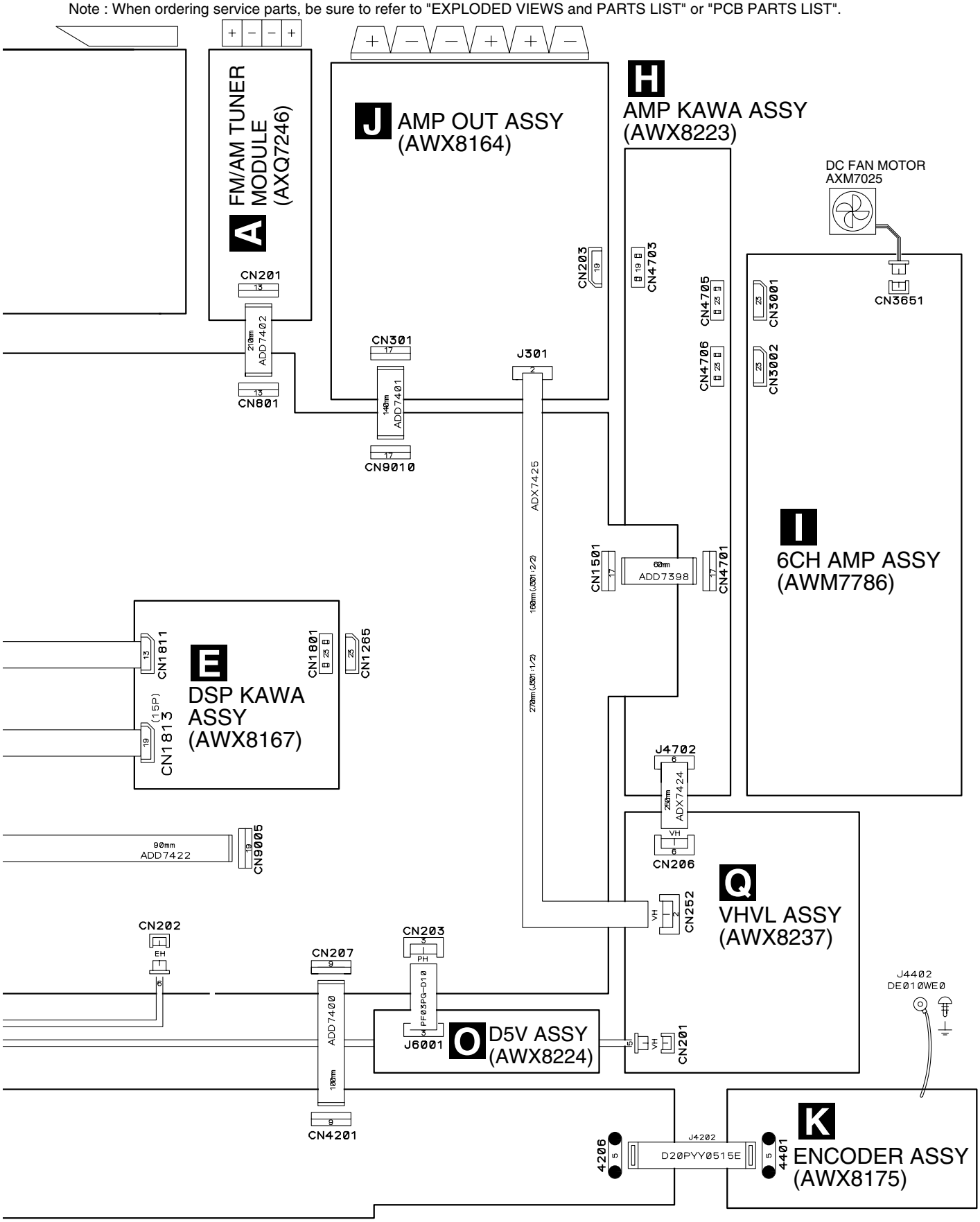
AC LINE


N PRIMARY ASSY
IC551
D555
T501
GDST
GDST
RY501
B SCART-1F ASSY
D2113,D2117,
D2118,D2120
REGG
D MOTHER ASSY
TUNER
V+10
Q801
GNDT
ANALOG BLOCK
V+12
V-12
IC601
IC602
GDA2
P 12V ASSY
Q VHVL ASSY
D201
D202
I 6CH AMP ASSY
FAN
VPF+15
VF-12
Q61
IC71
GNDREG
POWERPACK
VH+
VH-
VL+
VL-
V+5P
REGG
IC210
GND
D203
CODEC
V+5A
IC1271
GNDC
IC6001
GNDD
IC205
GNDD
GNDU
DIGITAL BLOCK, DSP
V+5D
V+3D
V1R8
IC8901
IC8902
GNDD
GNDD
F DSP ASSY
D9001
D9002
for MAIN uCOM
FRONTuCOM
V5UA
V5UB
D4201, D4202
GNDREG
D212
D204
-VFL
FL
AC2
AC1
C214
C213
D209
D207
GNDU
D MOTHER ASSY

3.2 OVERALL WIRING DIAGRAM

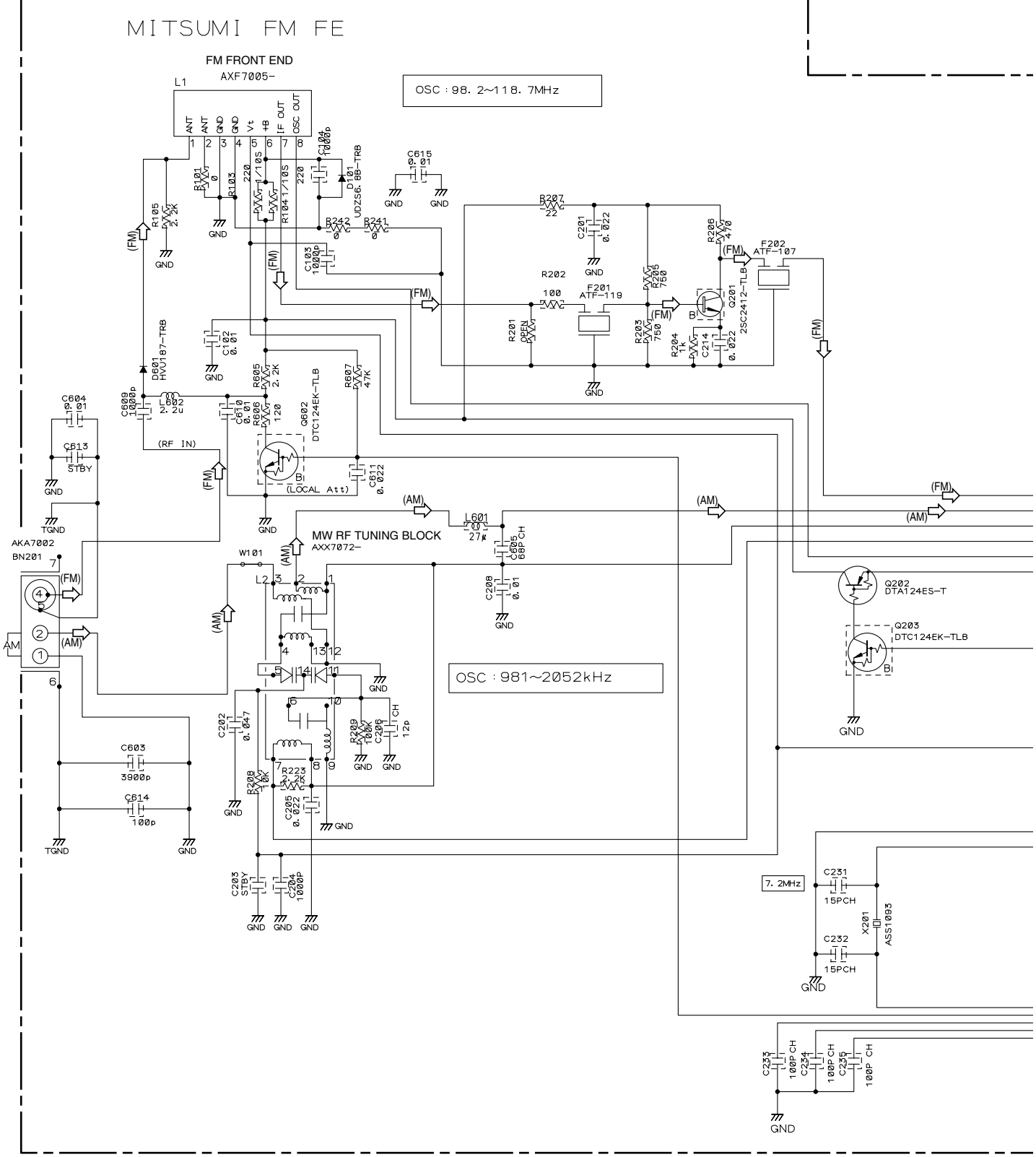


Note : When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".



3.3 FM/AM TUNER MODULE

A FM/AM TUNER MODULE (AXQ7246)



: The power supply is shown with the marked box.

(TX) : AUDIO SIGNAL ROUTE (TUNER)

(AM) : AM SIGNAL ROUTE

(FM) : FM SIGNAL ROUTE

Notes

1. RESISTORS

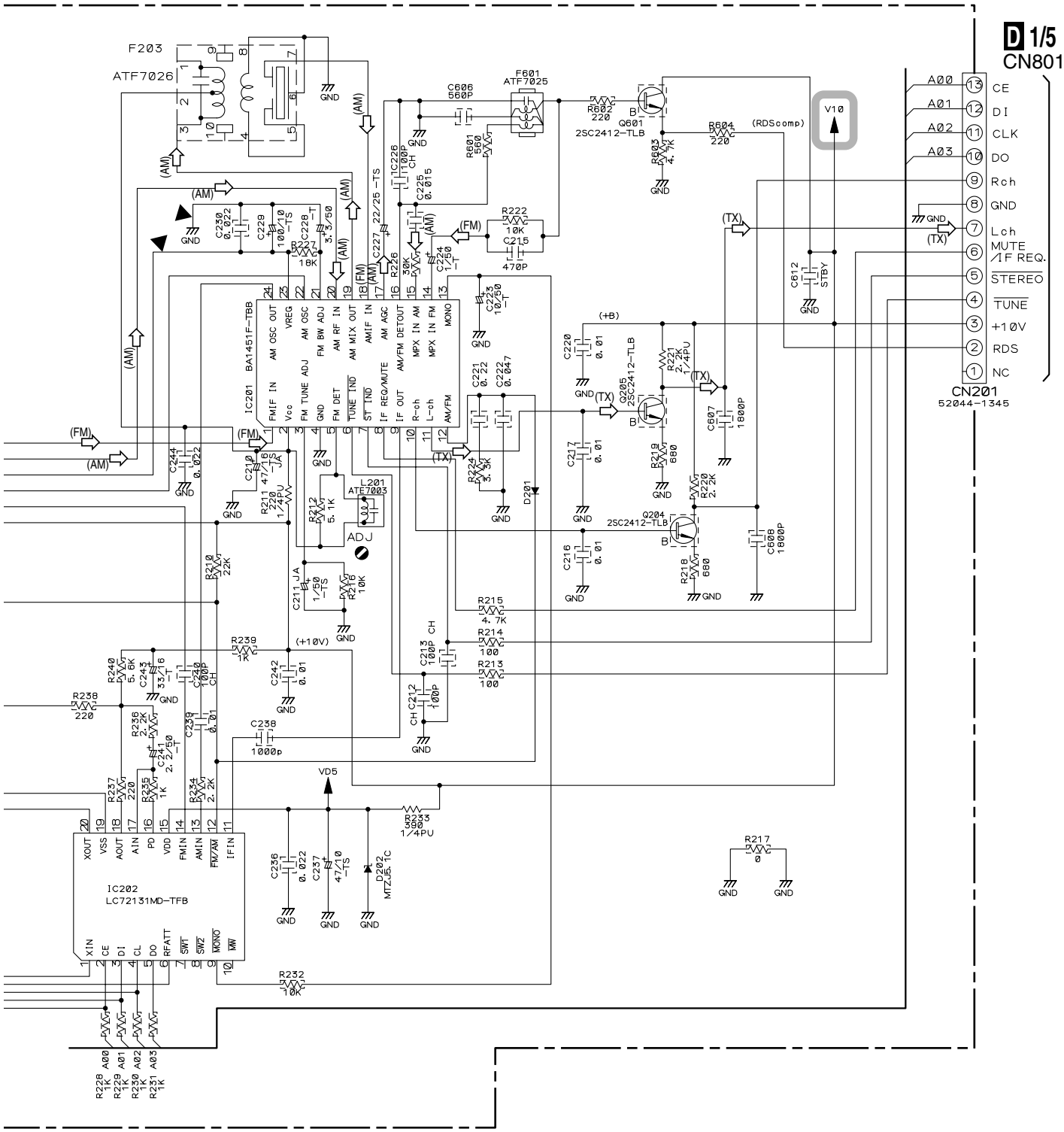
Indicated in Ω, 1/16W±5% Tolerance unless otherwise noted K;KΩ, M;MΩ.

2. CAPACITORS

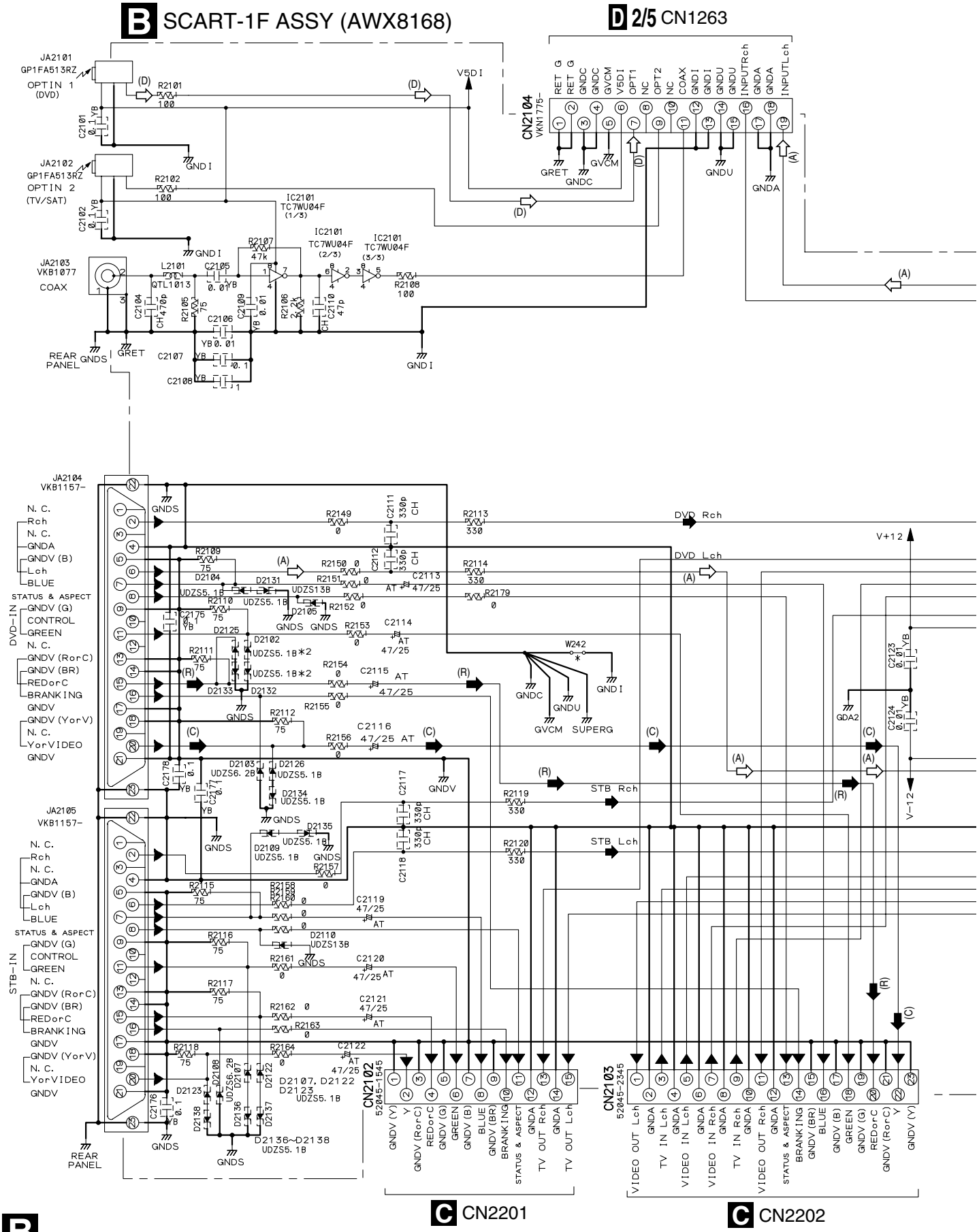
Indicated in Capacity(μF)/VOLTAGE(V) unless otherwise noted P;PF.

3. DIODES

No mark diode is 1SS133.



3.4 SCART-1F ASSY



: The power supply is shown with the marked box.

(A) : AUDIO SIGNAL ROUTE (ANALOG)
(D) : AUDIO SIGNAL ROUTE (DIGITAL)
(C) : VIDEO SIGNAL ROUTE (COMPOSITE)
(R) : VIDEO SIGNAL ROUTE (RGB: R)

NOTE
1. RESISTORS
Unit: k-kΩ, M-MΩ or Ω unless otherwise noted.
Rated power: 1/16W unless otherwise noted.
Tolerance: (J)± 5% unless otherwise noted.
2. CAPACITORS
Unit: p-pF or µF unless otherwise noted.
Ratings: Capacity(µF)/Voltage(V) unless otherwise noted.
Rated Voltage: 50V expect for electrolytic capacitors.
AT:CEAT JA:CEJA JQ:CEJQ YB:CKSRYB CH:CCSRCH
3. DIODES
Indicated in 1SS355-TRB.

620 51048-0500
J620 D20PYY0510E
P 601
V+U12, V+12, GDA2, V-12, V-U12
(at L2102), (at L2103)
F2102 FOT DTF1070
F2103 FOT DTF1070
C2168 2200/25 AT
C2169 2200/25 AT
V+12, V-12, GNDA, GNDV, GNDT, SUPERG
D2113, D2117, D2118, D2120 1SR154-400 *4
C2170 1/100 ACH1237
R2147 4.7 1/4W
IC2102 NP 2.5A AEK7014
IC2103 AKE7014 2.5A
CN2108 B3B-EH
REG A, REG G, REG B
To T1 PT

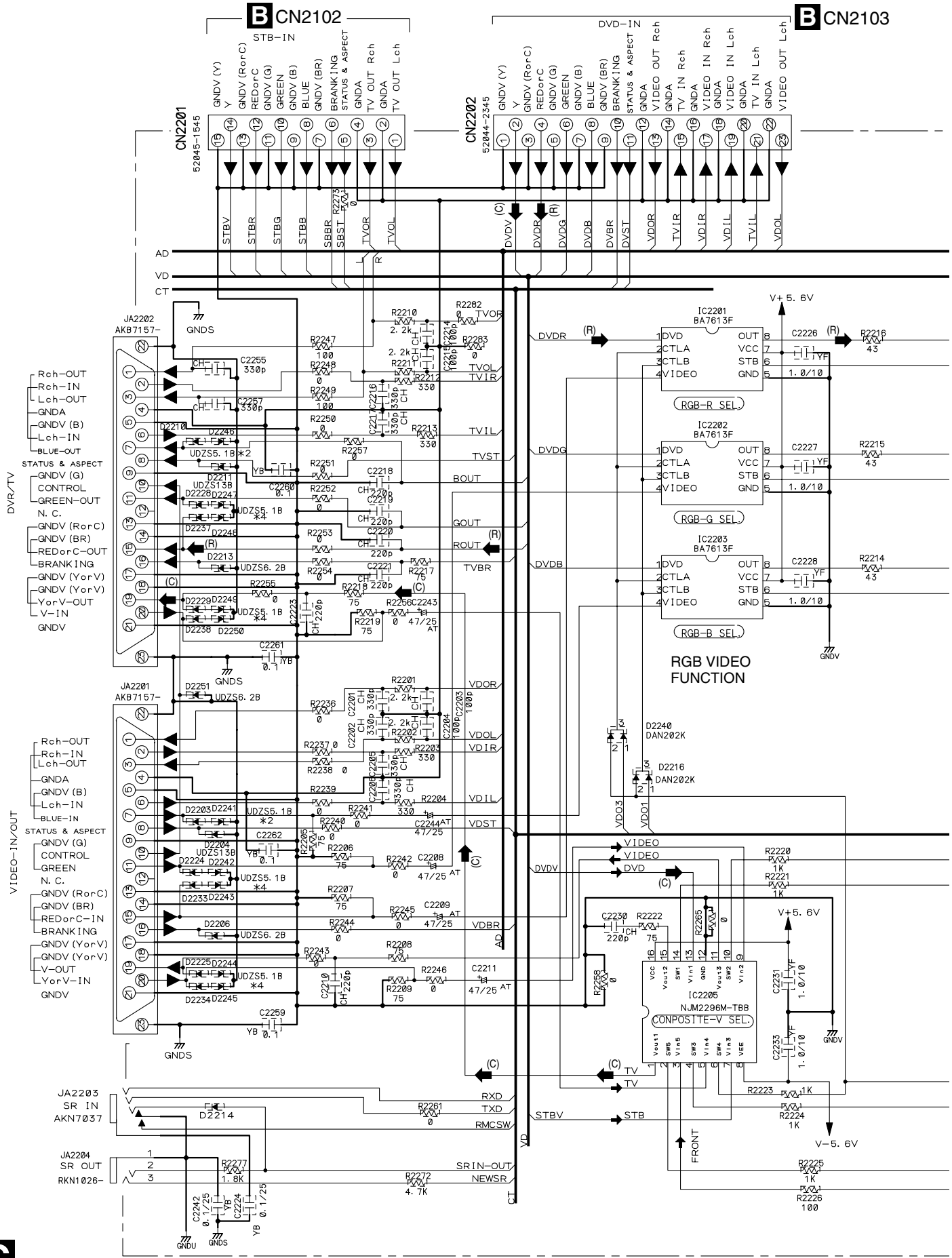
IC2104: ANALOG AUDIO FUNCTION
NJU7312AM
VDD, R, L, STB, DVD, VIDEO IN, TV TUNER FRONT, VIDEO OUT, TV OUT, N.C., DATA, CLK, VEE, N.C., ST, G
R2121 1K, R2122 1K
C2125 100p CH, C2126 100p CH
C2160 10/50 AT, C2161 10/50 AT
R1230 100
IC2106 (1/2) UPC4570G2
C2136 0.01 YB, C2137 0.01 YB
C2130 AT 4.7/50, C2131 AT 4.7/50
C2138 AT 47/25, C2139 AT 47/25
R2124 100K, R2125 100K, R2126 100k, R2127 100k, R2128 100k, R2129 100k
C2133 100p CH, C2134 100p CH
R2131 100
IC2106(2/2) UPC4570G2
R2174 0, C2127 100p CH
R2123 1K, R2175 0
D2127 DAN217
GNDU, GDA2, GNDA, GNDV, GNDT

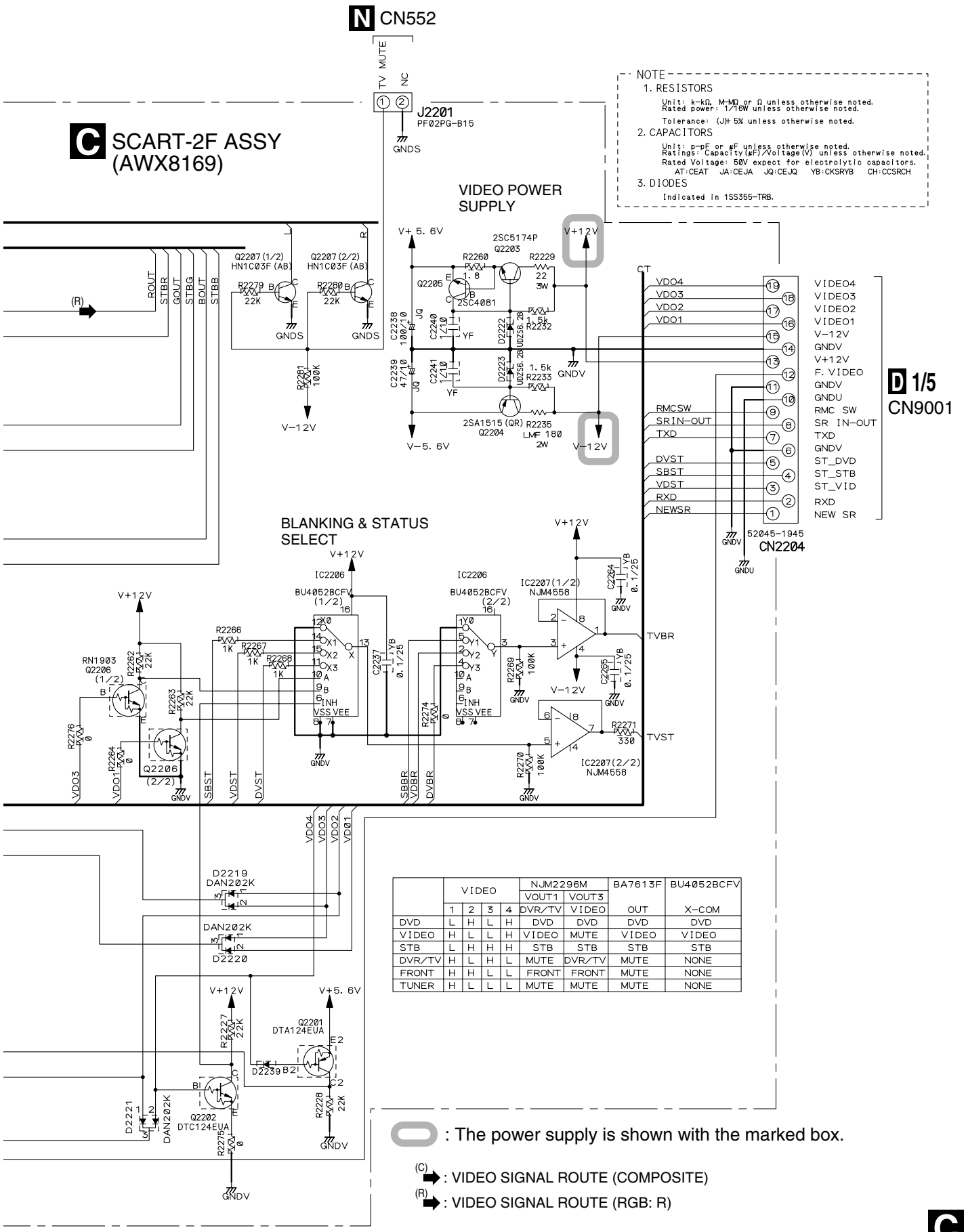
D 2/5
CN1262
CN2106 VKN1775-
V-12V, GDA2, GDA2, V+12V, GNDU, SYDT, SYCK, 73CS, GNDV, T Lch, GNDT, T Rch, GNDT, MCACC, MICIN, GNDA, FRONT Lch, GNDA, FRONT Rch

CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 49102.5 FOR IC2101 AND IC2102 MFD, BY LITTELFUSE INC.

B

3.5 SCART-2F ASSY





	VIDEO				NJM2296M		BA7613F	BU4052BCFV
					VOUT1	VOUT3		
	1	2	3	4	DVR/TV	VIDEO	OUT	X-COM
DVD	L	H	L	H	DVD	DVD	DVD	DVD
VIDEO	H	L	L	H	VIDEO	MUTE	VIDEO	VIDEO
STB	L	H	H	H	STB	STB	STB	STB
DVR/TV	H	L	H	L	MUTE	DVR/TV	MUTE	NONE
FRONT	H	H	L	L	FRONT	FRONT	MUTE	NONE
TUNER	H	L	L	L	MUTE	MUTE	MUTE	NONE

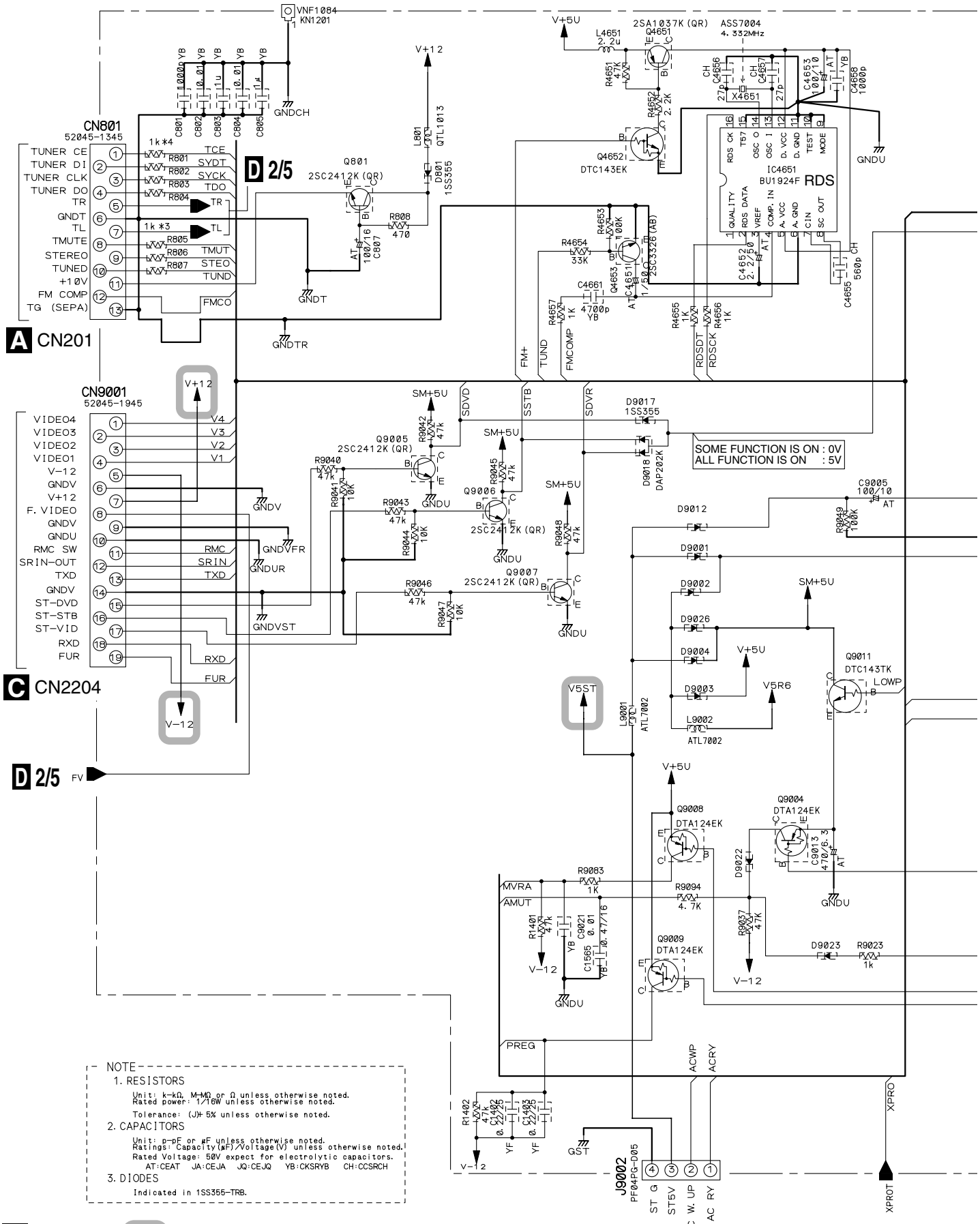
: The power supply is shown with the marked box.

(C) : VIDEO SIGNAL ROUTE (COMPOSITE)

(R) : VIDEO SIGNAL ROUTE (RGB: R)

C

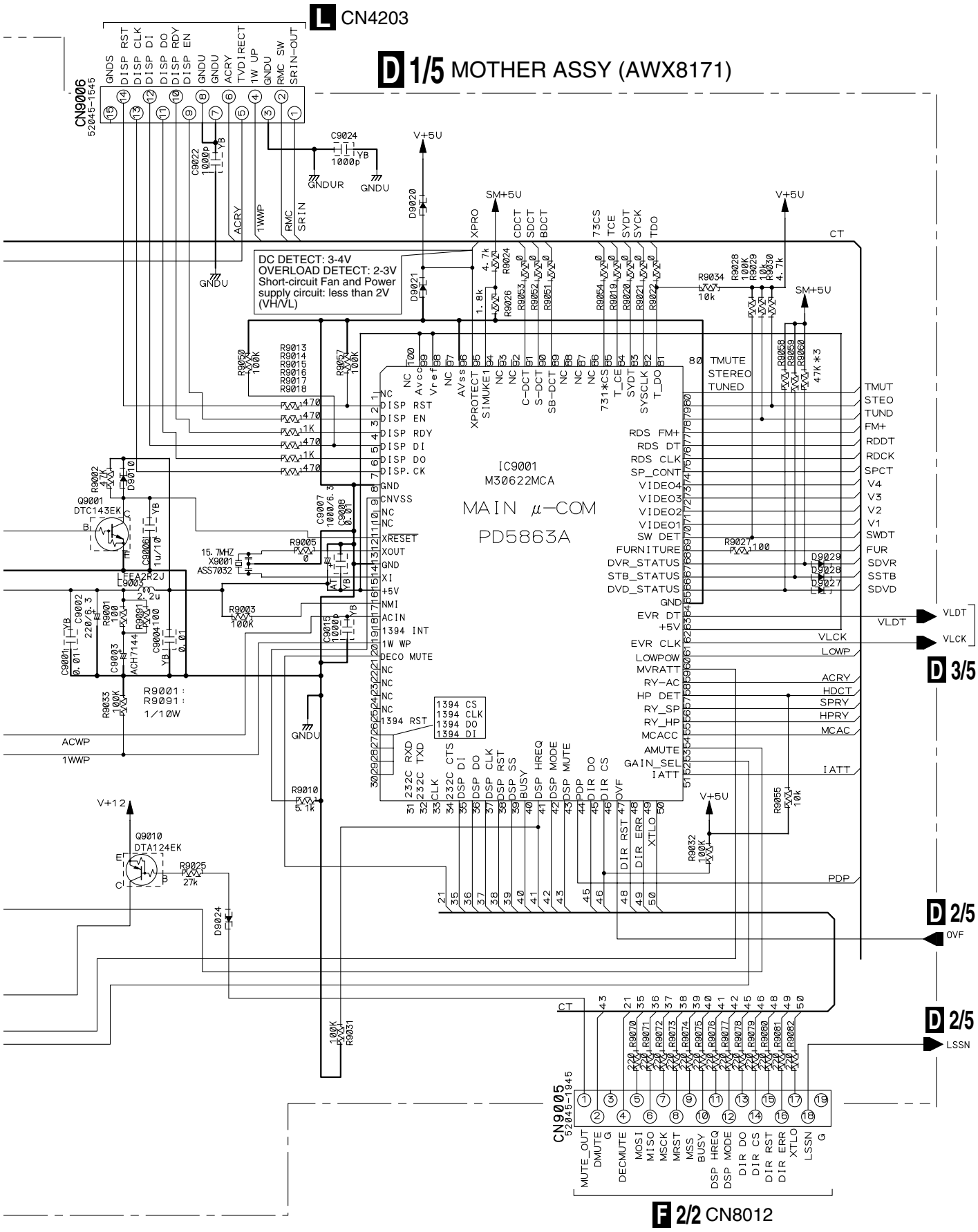
3.6 MOTHER ASSY (1/5)



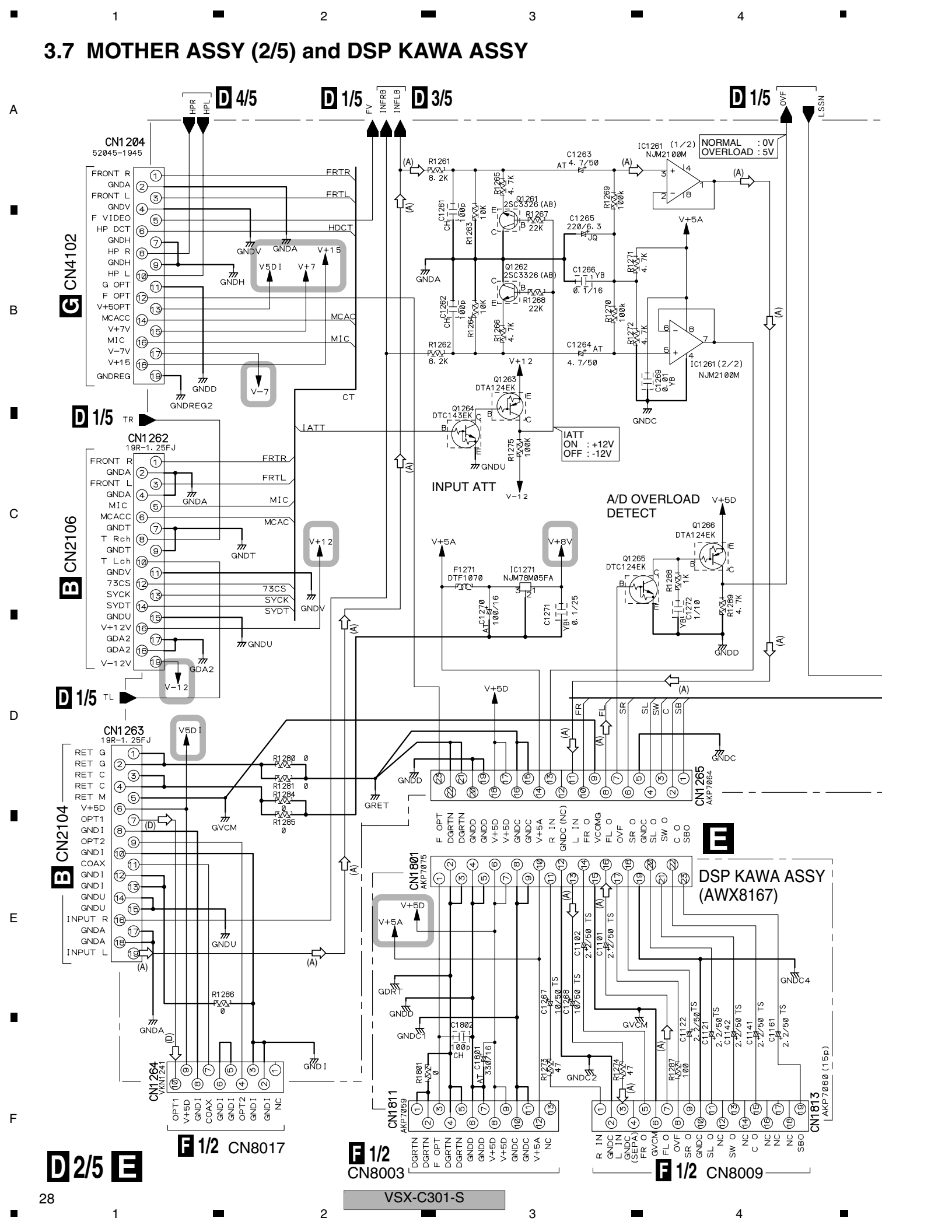
NOTE

1. RESISTORS
   Unit: k-kΩ, M-MΩ or Ω unless otherwise noted.
   Rated power: 1/16W unless otherwise noted.
   Tolerance: (J)± 5% unless otherwise noted.
2. CAPACITORS
   Unit: p-pF or μF unless otherwise noted.
   Ratings: Capacity(μF)/Voltage(V) unless otherwise noted.
   Rated Voltage: 50V expect for electrolytic capacitors.
   AT:CEAT JA:CEJA JQ:CEJQ YB:CKSRYB CH:CCSRCH
3. DIODES
   Indicated in 1SS355-TRB.

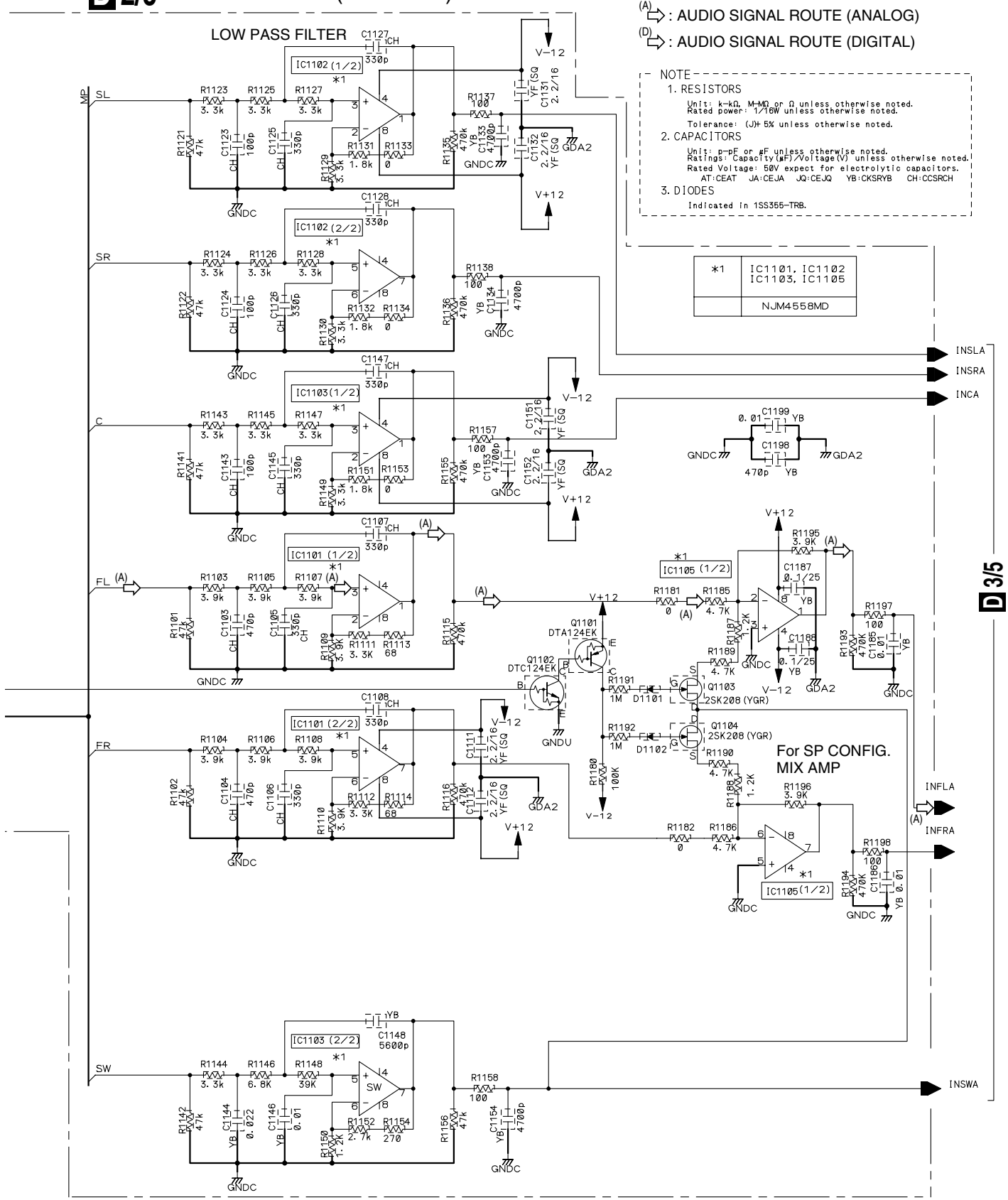
: The power supply is shown with the marked box.


L CN4203
D 1/5 MOTHER ASSY (AWX8171)
CN9006
52045-1545
GNDS
DISP RST
DISP CLK
DISP DI
DISP DO
DISP RDY
DISP EN
GNDU
GNDU
ACRY
TVDIRECT
1W UP
GNDU
RMC SW
SRIN-OUT
C9022 1000p YB
C9024 1000p YB
GNDUR
GNDU
ACRY
1WWP
RMC
SRIN
D9020
V+5U
SM+5U
XPRO
CDCT
SDCT
BDCT
73CS
TCE
SYDT
SYCK
TDO
CT
DC DETECT: 3-4V
OVERLOAD DETECT: 2-3V
Short-circuit Fan and Power supply circuit: less than 2V (VH/VL)
D9021
4.7k
1.8k
R9026
R9024
R9053
R9052
R9051
R9054
R9019
R9020
R9021
R9022
R9034 10k
R9028 100K
R9029 10k
R9030 4.7k
SM+5U
R9050 100K
R9057 100K
R9013
R9014
R9015
R9016
R9017
R9018
470
470
1K
470
1K
470
IC9001
M30622MCA
MAIN μ-COM
PD5863A
NC
DISP RST
DISP EN
DISP RDY
DISP DI
DISP DO
DISP.CK
GND
CNVSS
NC
NC
XRESET
XOUT
GND
XI
+5V
NMI
ACIN
1394 INT
1W WP
DECO MUTE
NC
NC
NC
NC
1394 RST
Avcc
Vref
AVss
XPROTECT
SIMUKE1
C-DCT
S-DCT
SB-DCT
731*CS
T_CE
SYDT
SYSCLK
T_DO
TMUTE
STEREO
TUNED
RDS FM+
RDS DT
RDS CLK
SP_CONT
VIDEO4
VIDEO3
VIDEO2
VIDEO1
SW DET
FURNITURE
DVR_STATUS
STB_STATUS
DVD_STATUS
GND
EVR DT
+5V
EVR CLK
LOWPOW
MVRATT
RY-AC
HP DET
RY_SP
RY_HP
MCACC
AMUTE
GAIN_SEL
IATT
1394 CS
1394 CLK
1394 DO
1394 DI
RXD
TXD
CLK
CTS
DI
DO
CLK
RST
SS
BUSY
HREQ
MODE
MUTE
DO
DI
CS
OVF
DIR RST
DIR ERR
XTLO
TMUT
STEO
TUND
FM+
RDDT
RDCK
SPCT
V4
V3
V2
V1
SWDT
FUR
SDVR
SSTB
SDVD
VLDT
VLCK
LOWP
ACRY
HDCT
SPRY
HPRY
MCAC
IATT
PDP
OVF
LSSN
R9027 100
D9029
D9026
D9027
R9055 10k
R9032 100K
R9058
R9059
R9060
47K*3
Q9001
DTC143EK
R9002 47K
D9010
C9006 1u/10
15.7MHZ
X9001
ASS7032
R9005 0
C9007 1000/6.3
C9008 0.01
C9001 0.01
C9002 220/6.3
C9003
ACH7144
C9004 100
R9001 100
R9003 100K
C9015 10000p
R9033 100K
R9001:
R9091:
1/10W
ACWP
1WWP
GNDU
R9010 1K
V+12
Q9010
DTA124EK
R9025 27k
D9024
100K
R9031
CN9005
52045-1945
MUTE_OUT
DMUTE
G
DECMUTE
MOSI
MISO
MSCK
MRST
MSS
BUSY
DSP HREQ
DSP MODE
DIR DO
DIR CS
DIR RST
DIR ERR
XTLO
LSSN
G
R9070
R9071
R9072
R9073
R9074
R9075
R9076
R9077
R9078
R9079
R9080
R9081
R9082
F 2/2 CN8012
D 3/5
D 2/5
D 2/5
D 1/5

3.7 MOTHER ASSY (2/5) and DSP KAWA ASSY



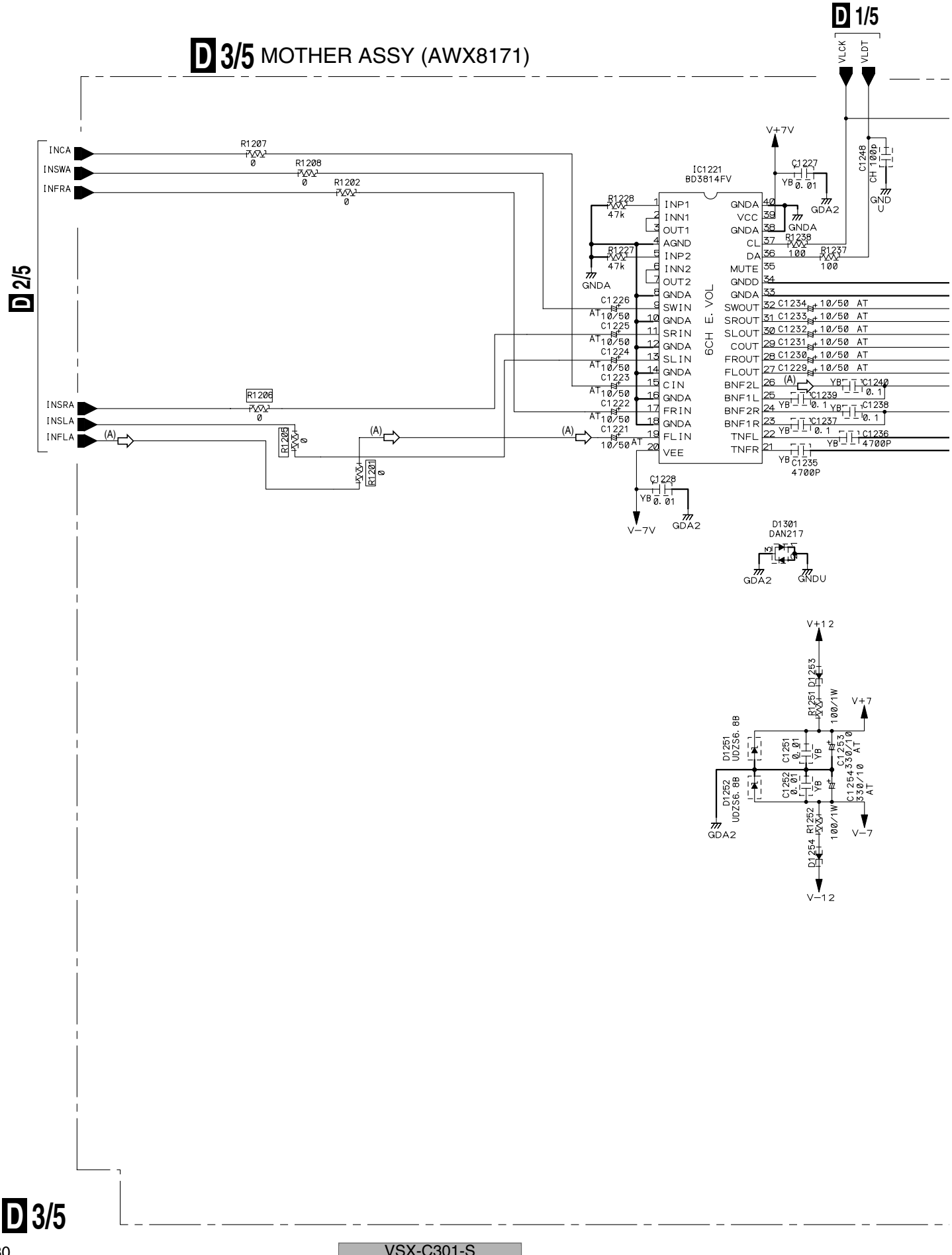
D 2/5 MOTHER ASSY (AWX8171)

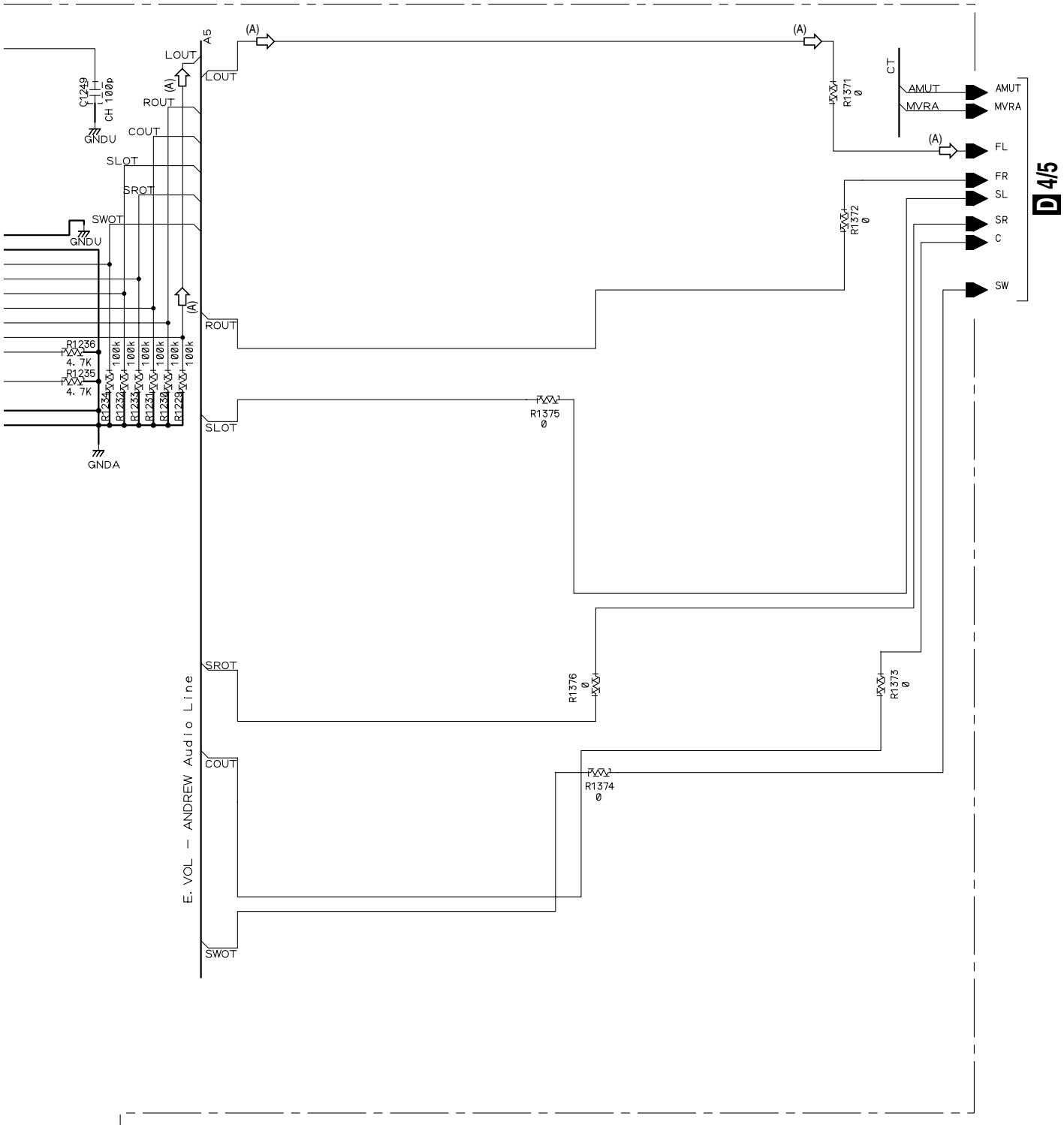


: The power supply is shown with the marked box.

D 2/5

3.8 MOTHER ASSY (3/5)





NOTE

1. RESISTORS

Unit: k-kΩ, M-MΩ or Ω unless otherwise noted.
Rated power: 1/16W unless otherwise noted.

Tolerance: (J)± 5% unless otherwise noted.

2. CAPACITORS

Unit: p-pF or μF unless otherwise noted.
Ratings: Capacity(μF)/Voltage(V) unless otherwise noted.
Rated Voltage: 50V expect for electrolytic capacitors.
AT:CEAT JA:CEJA JQ:CEJQ YB:CKSRYB CH:CCSRCH

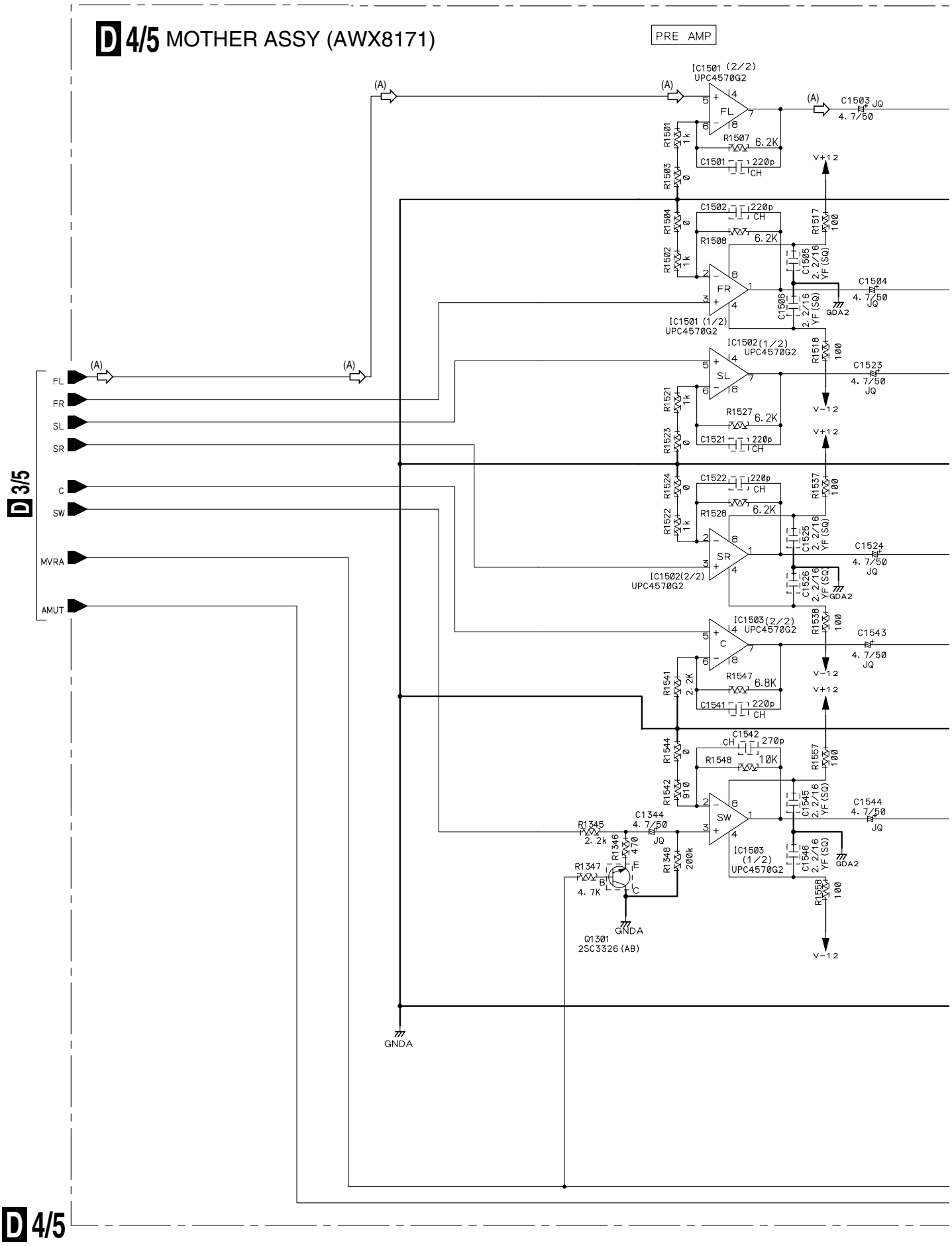
3. DIODES

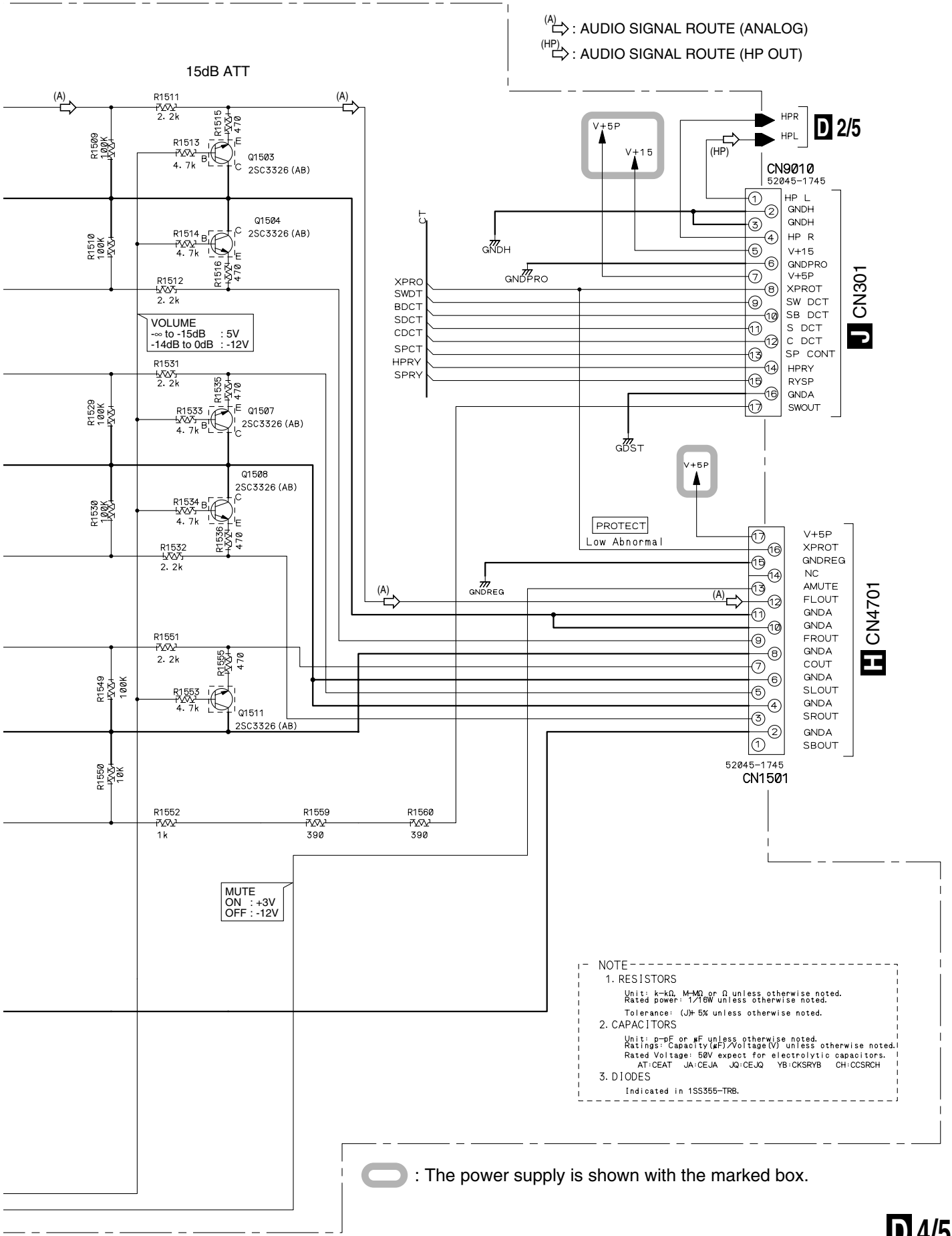
Indicated in 1SS355-TRB.

(A) ⇨ : AUDIO SIGNAL ROUTE (ANALOG)

D 3/5

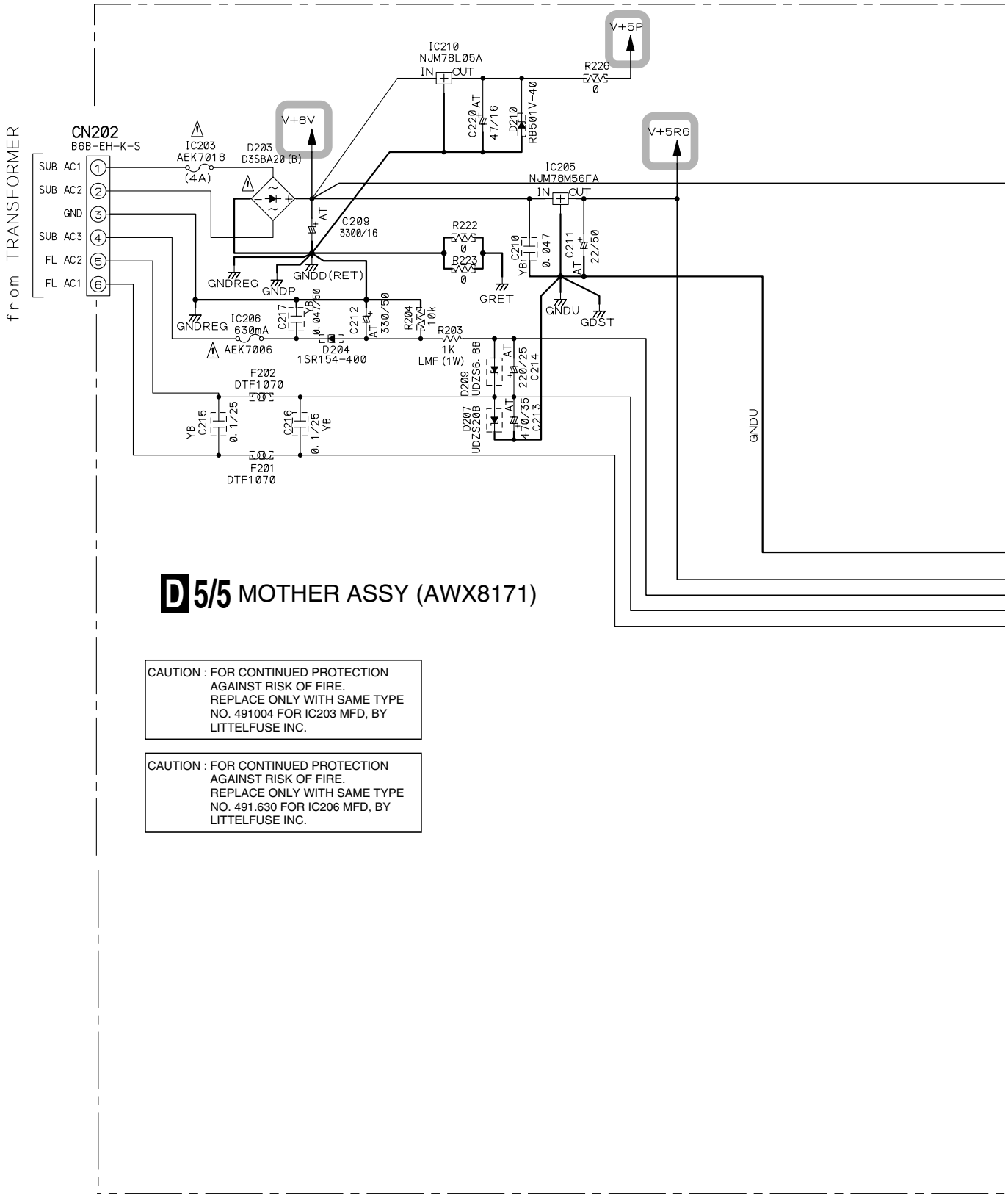
3.9 MOTHER ASSY (4/5)




(A) : AUDIO SIGNAL ROUTE (ANALOG)
(HP) : AUDIO SIGNAL ROUTE (HP OUT)
15dB ATT
R1511 2.2k
R1513 4.7k
R1515 470
Q1503 2SC3326 (AB)
R1509 100K
R1514 4.7k
R1516 470
Q1504 2SC3326 (AB)
R1510 100K
R1512 2.2k
VOLUME
-∞ to -15dB : 5V
-14dB to 0dB : -12V
R1531 2.2k
R1533 4.7k
R1535 470
Q1507 2SC3326 (AB)
R1529 100K
Q1508 2SC3326 (AB)
R1534 4.7k
R1536 470
R1530 100K
R1532 2.2k
R1551 2.2k
R1553 4.7k
R1555 470
Q1511 2SC3326 (AB)
R1549 100K
R1550 10K
R1552 1k
R1559 390
R1560 390
MUTE
ON : +3V
OFF : -12V
V+5P
V+15
HPR
HPL
(HP)
D 2/5
CN9010
52045-1745
HP L
GNDH
GNDH
HP R
V+15
GNDPRO
V+5P
XPROT
SW DCT
SB DCT
S DCT
C DCT
SP CONT
HPRY
RYSP
GNDA
SWOUT
J CN301
CT
GNDH
GNDPRO
XPRO
SWDT
BDCT
SDCT
CDCT
SPCT
HPRY
SPRY
GDST
V+5P
PROTECT
Low Abnormal
V+5P
XPROT
GNDREG
NC
AMUTE
FLOUT
GNDA
GNDA
FROUT
GNDA
COUT
GNDA
SLOUT
GNDA
SROUT
GNDA
SBOUT
H CN4701
52045-1745
CN1501
GNDREG
(A)
(A)
(A)
NOTE
1. RESISTORS
Unit: k-kΩ, M-MΩ or Ω unless otherwise noted.
Rated power: 1/16W unless otherwise noted.
Tolerance: (J)± 5% unless otherwise noted.
2. CAPACITORS
Unit: p-pF or μF unless otherwise noted.
Ratings: Capacity(μF)/Voltage(V) unless otherwise noted.
Rated Voltage: 50V expect for electrolytic capacitors.
AT:CEAT JA:CEJA JQ:CEJQ YB:CKSRYB CH:CCSRCH
3. DIODES
Indicated in 1SS355-TRB.
: The power supply is shown with the marked box.

D 4/5

3.10 MOTHER ASSY (5/5)



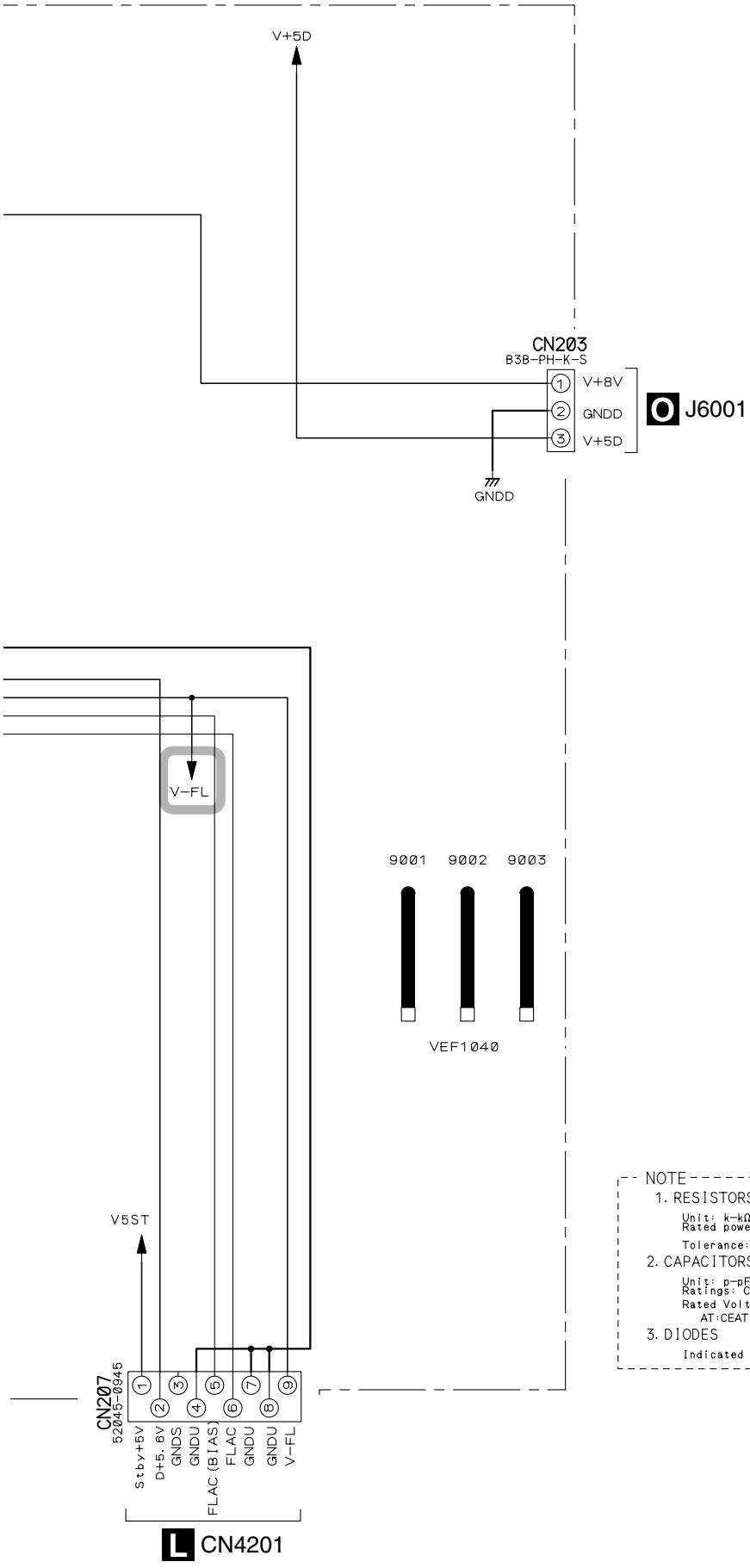
D 5/5 MOTHER ASSY (AWX8171)

CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 491004 FOR IC203 MFD, BY LITTELFUSE INC.

CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 491.630 FOR IC206 MFD, BY LITTELFUSE INC.

: The power supply is shown with the marked box.

D 5/5



NOTE

1. RESISTORS

Unit: k-kΩ, M-MΩ or Ω unless otherwise noted.
Rated power: 1/16W unless otherwise noted.

Tolerance: (J)± 5% unless otherwise noted.

2. CAPACITORS

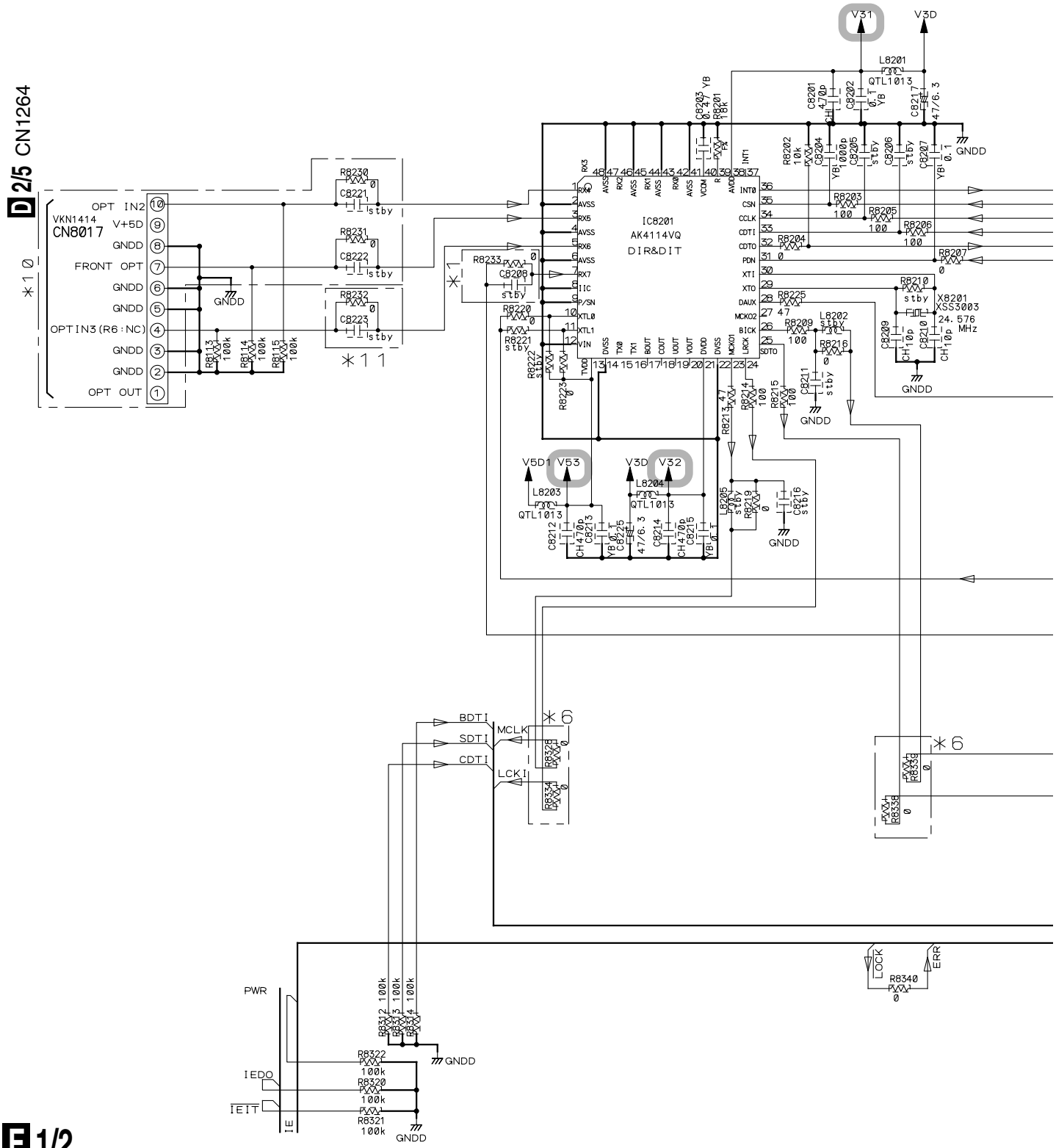
Unit: p-pF or μF unless otherwise noted.
Ratings: Capacity(μF)/Voltage(V) unless otherwise noted.
Rated Voltage: 50V expect for electrolytic capacitors.
AT:CEAT JA:CEJA JQ:CEJQ YB:CKSRYB CH:CCSRCH

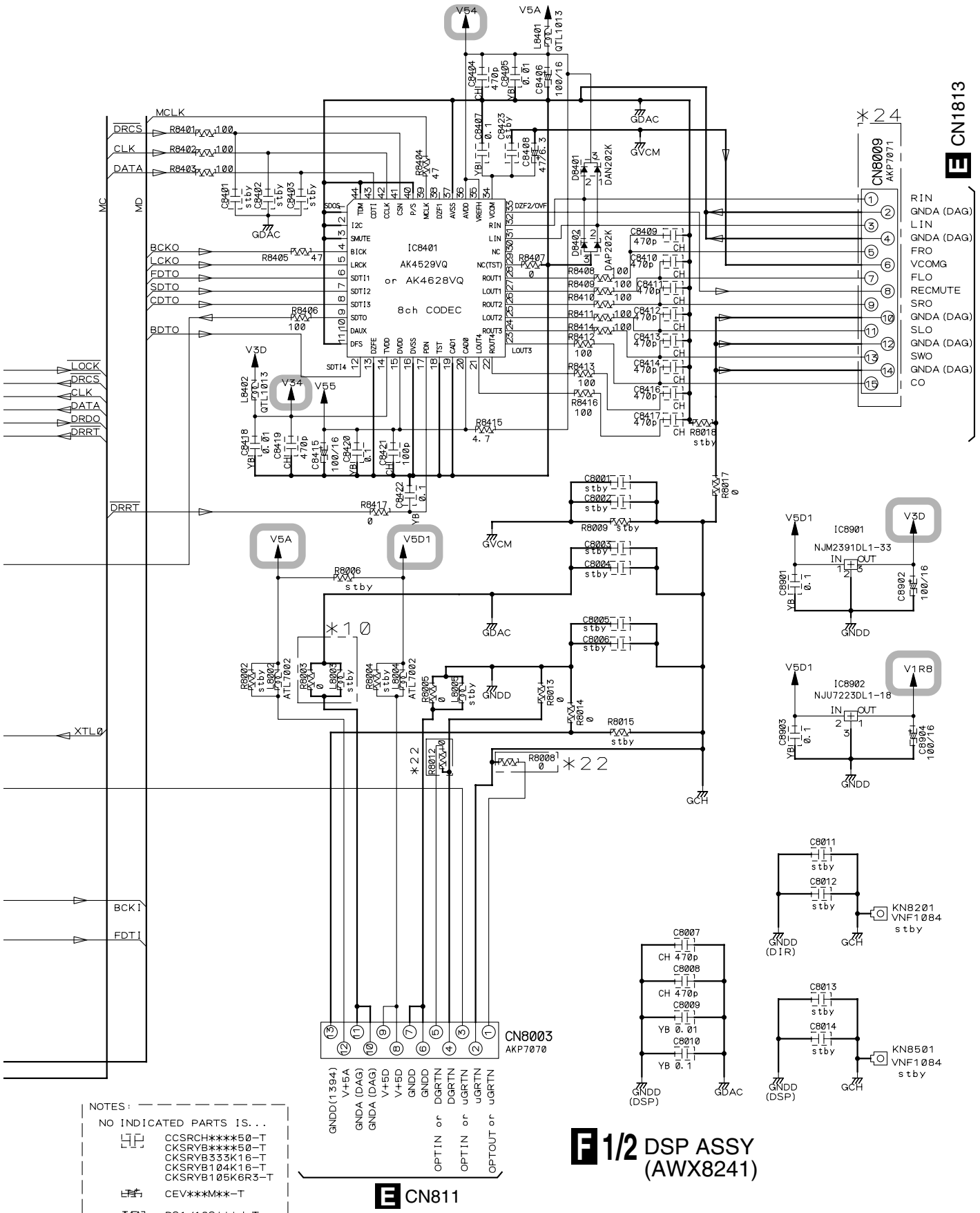
3. DIODES

Indicated in 1SS355-TRB.

D 5/5

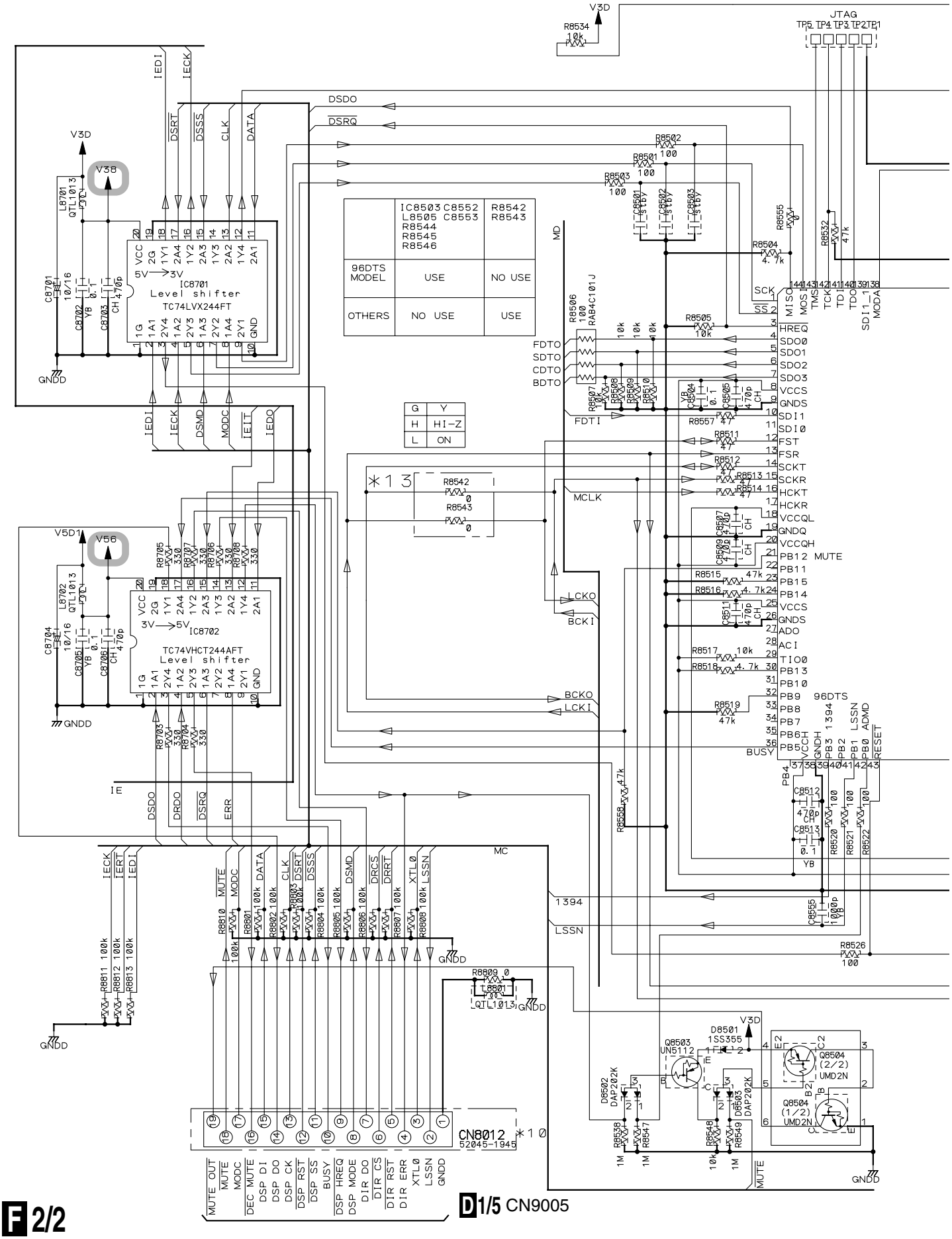
3.11 DSP ASSY (1/2)



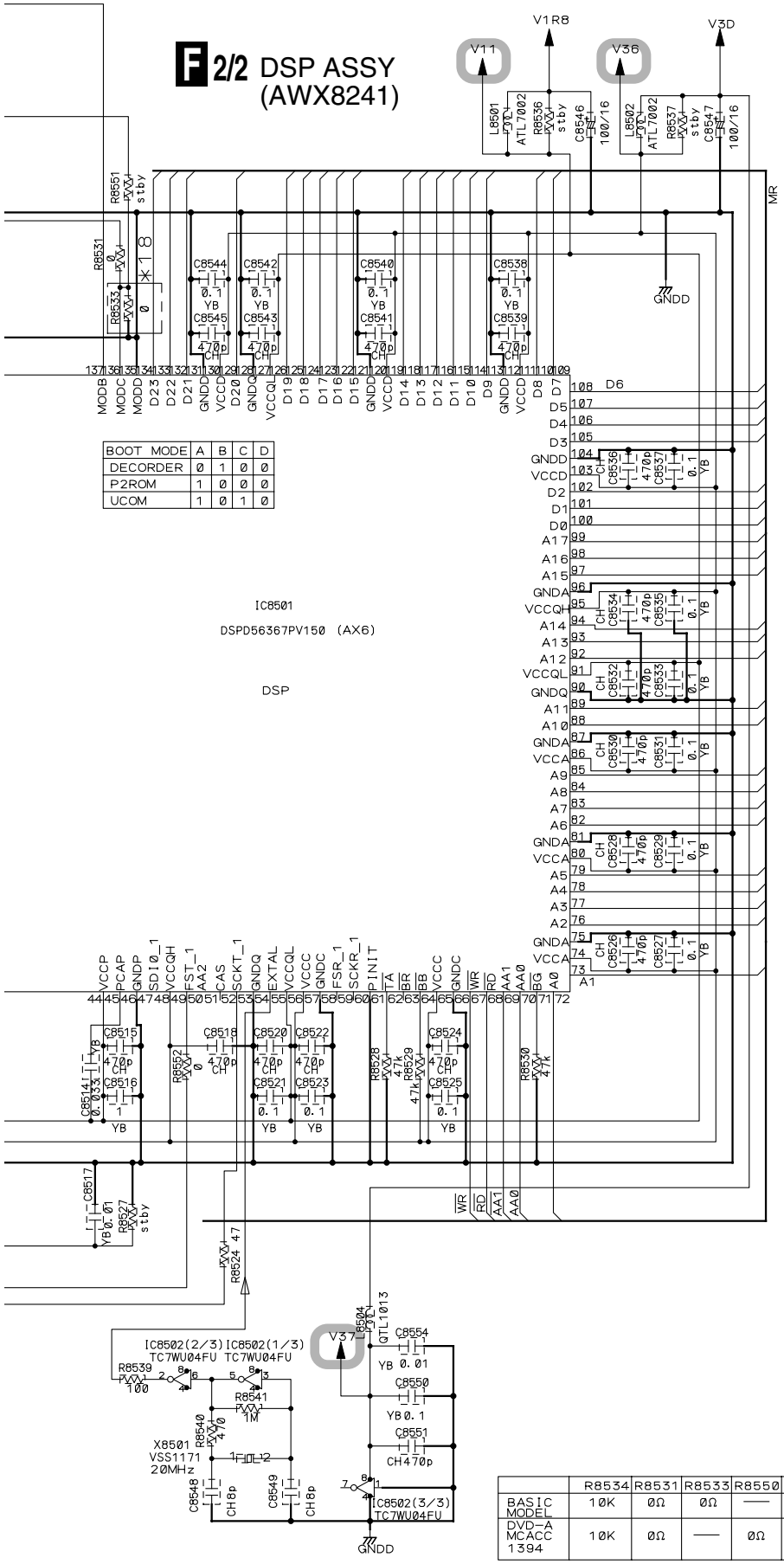


F 1/2 DSP ASSY (AWX8241)

3.12 DSP ASSY (2/2)



F 2/2 DSP ASSY (AWX8241)



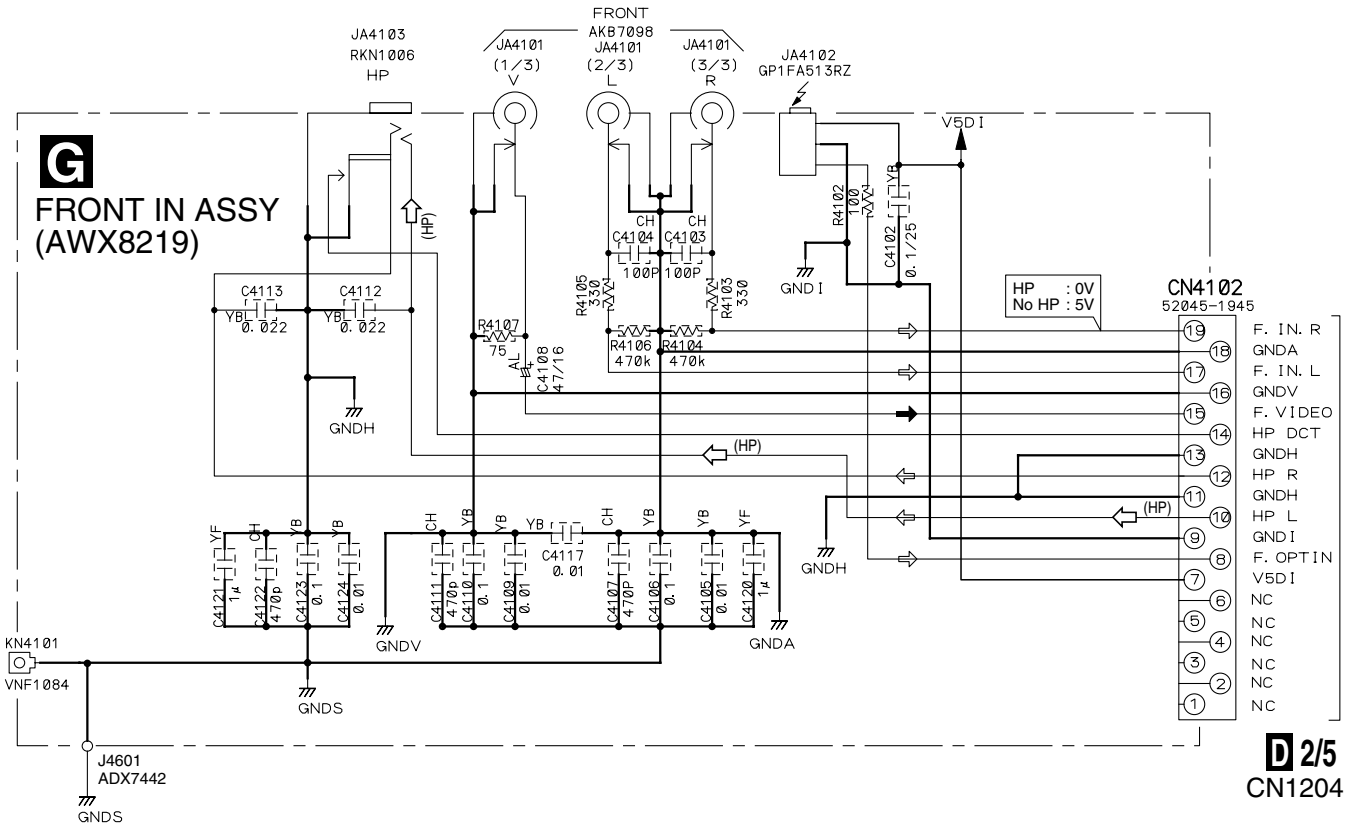
BOOT MODE	A	B	C	D
DECORDER	0	1	0	0
P2ROM	1	0	0	0
UCOM	1	0	1	0

	IC8601 C8601 C8602 C8603 C8604 L8601	IC8602 C8605 C8606 C8607 C8608 L8602	IC8603 C8609 C8610 L8603	R8523
BASIC MODEL	NO USE	NO USE	NO USE	NO USE
AAC&96DTS	USE	USE	NO USE	USE
MCACC	USE	NO USE	USE	USE
AAC&96DTS &MCACC	USE	USE	USE	USE

	R8534	R8531	R8533	R8550	R8551	Q8501
BASIC MODEL	10K	0Ω	0Ω	—	—	—
DVD-A MCACC 1394	10K	0Ω	—	0Ω	—	UN5212

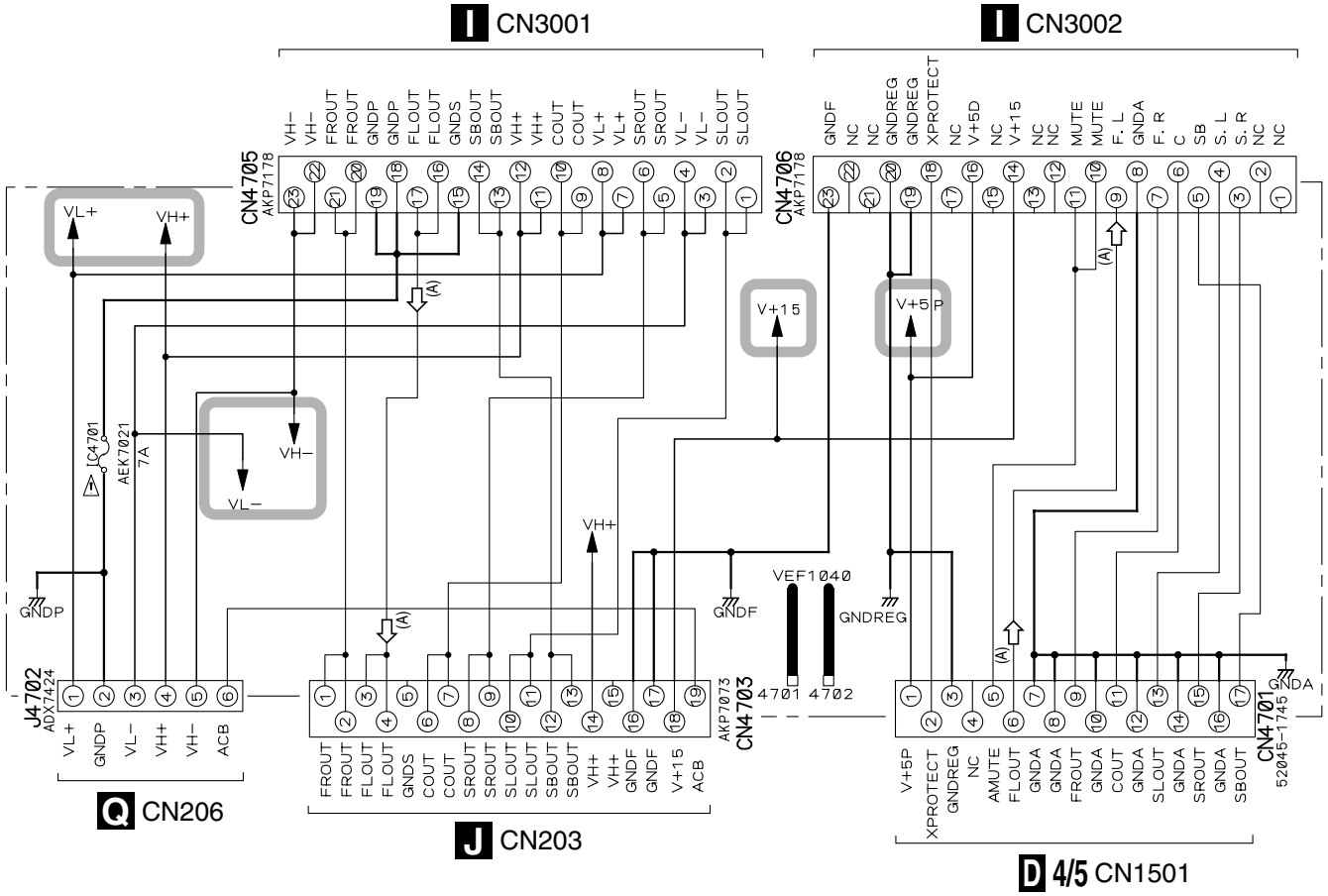
F 2/2

3.13 FRONT IN and AMP KAWA ASSYS



(HP) : AUDIO SIGNAL ROUTE (HP OUT)

H AMP KAWA ASSY (AWX8223)



(A) ⇨ : AUDIO SIGNAL ROUTE (ANALOG)

⬭ : The power supply is shown with the marked box.

CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TYPE NO. 491007 FOR IC4701 MFD, BY LITTELFUSE INC.

NOTE

1. RESISTORS

Unit: k−kΩ, M−MΩ or Ω unless otherwise noted.
Rated power: 1/16W unless otherwise noted.

Tolerance: (J)± 5% unless otherwise noted.

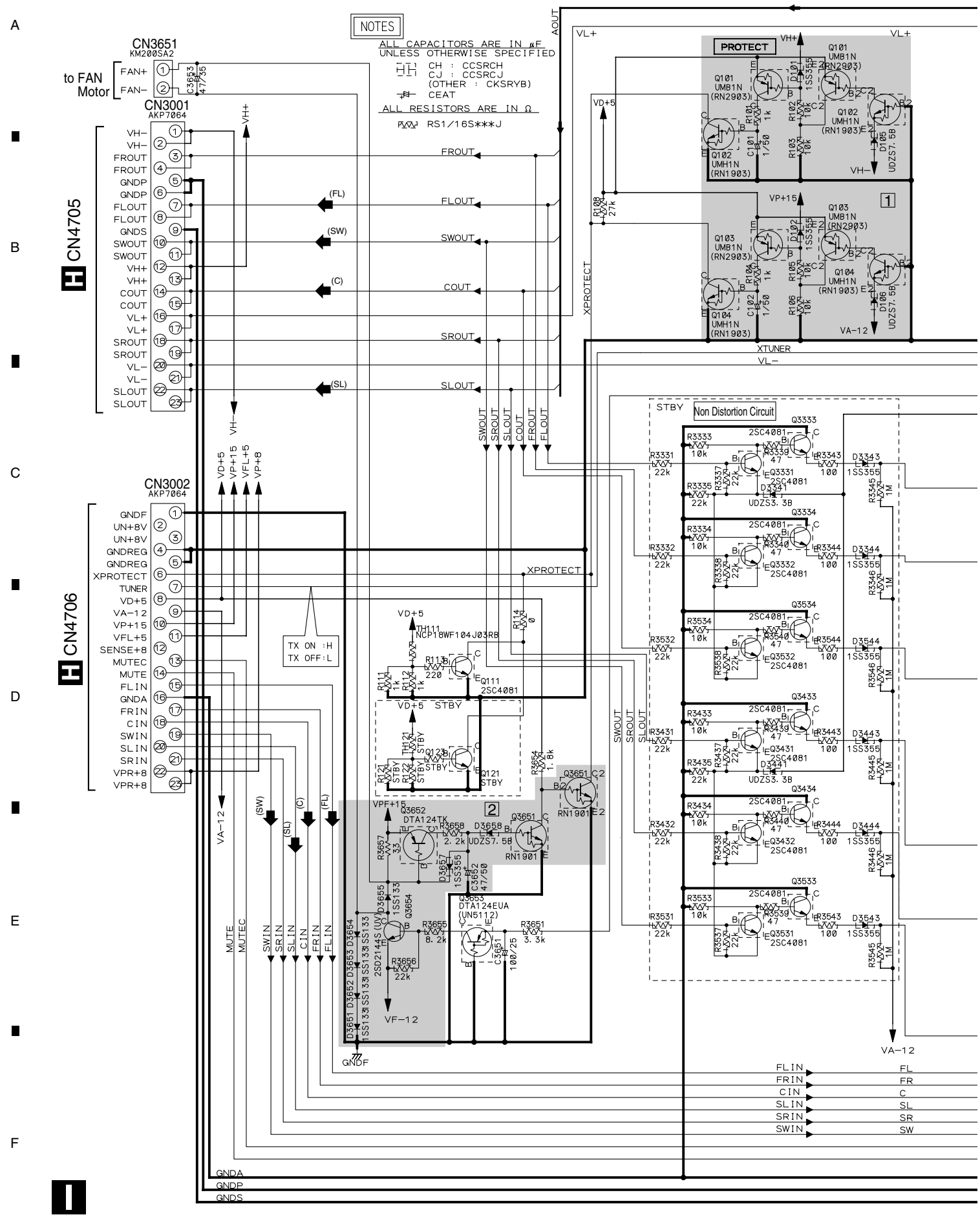
2. CAPACITORS

Unit: p−pF or μF unless otherwise noted.
Ratings: Capacity(μF)/Voltage(V) unless otherwise noted.
Rated Voltage: 50V expect for electrolytic capacitors.
AT:CEAT JA:CEJA JQ:CEJQ YB:CKSRYB CH:CCSRCH

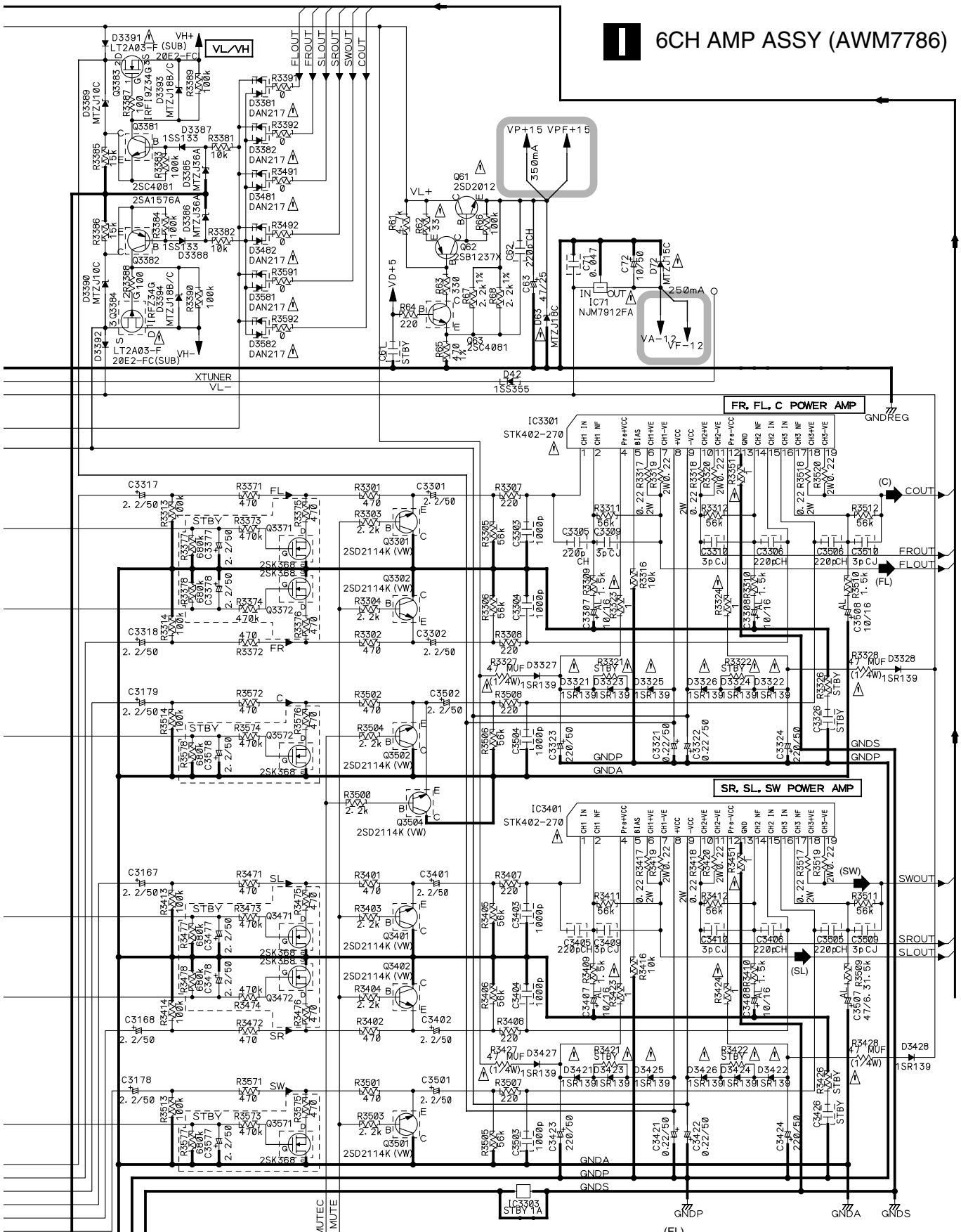
3. DIODES

Indicated in 1SS355−TRB.

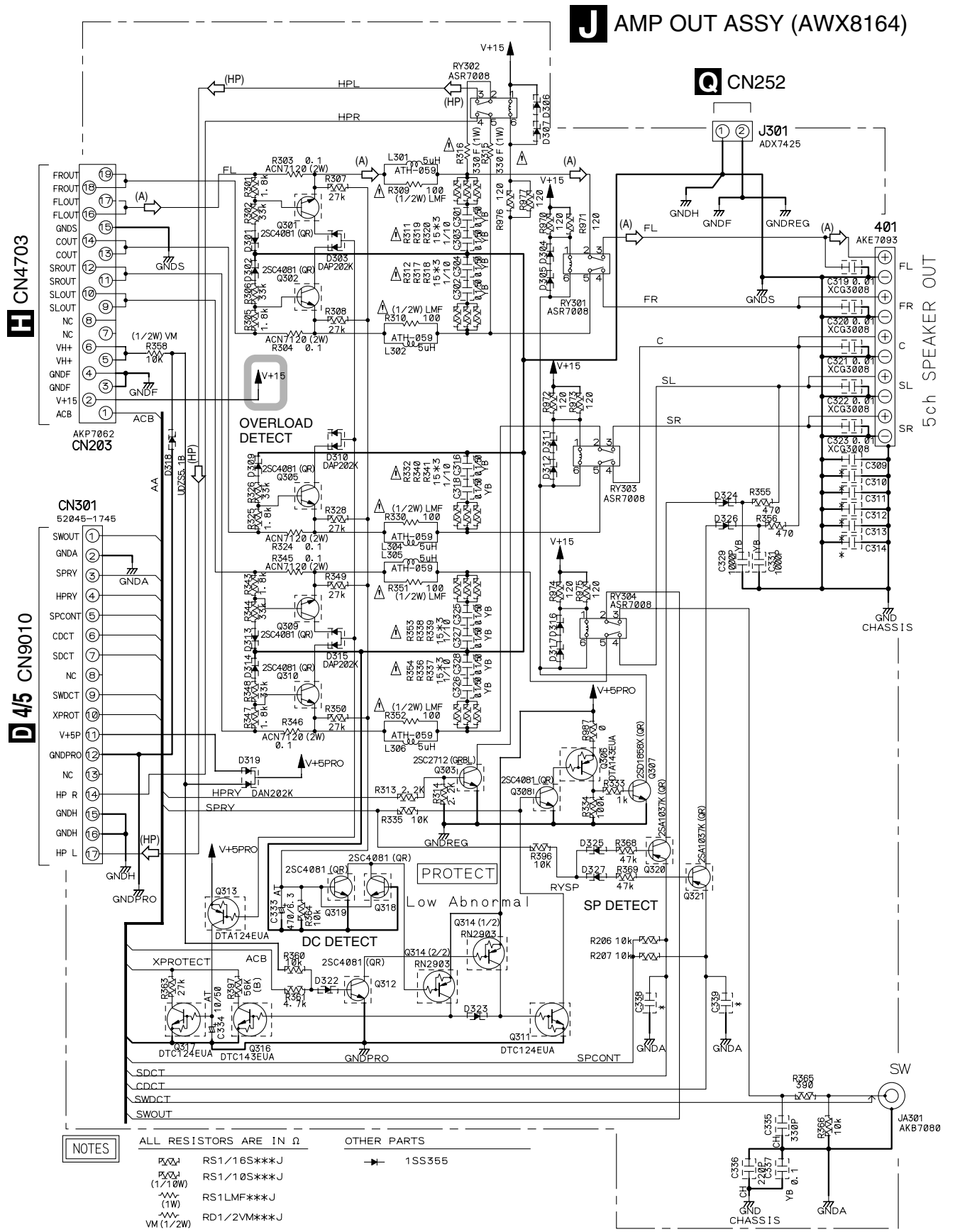
3.14 6CH AMP ASSY



6CH AMP ASSY (AWM7786)



3.15 AMP OUT ASSY



A

B

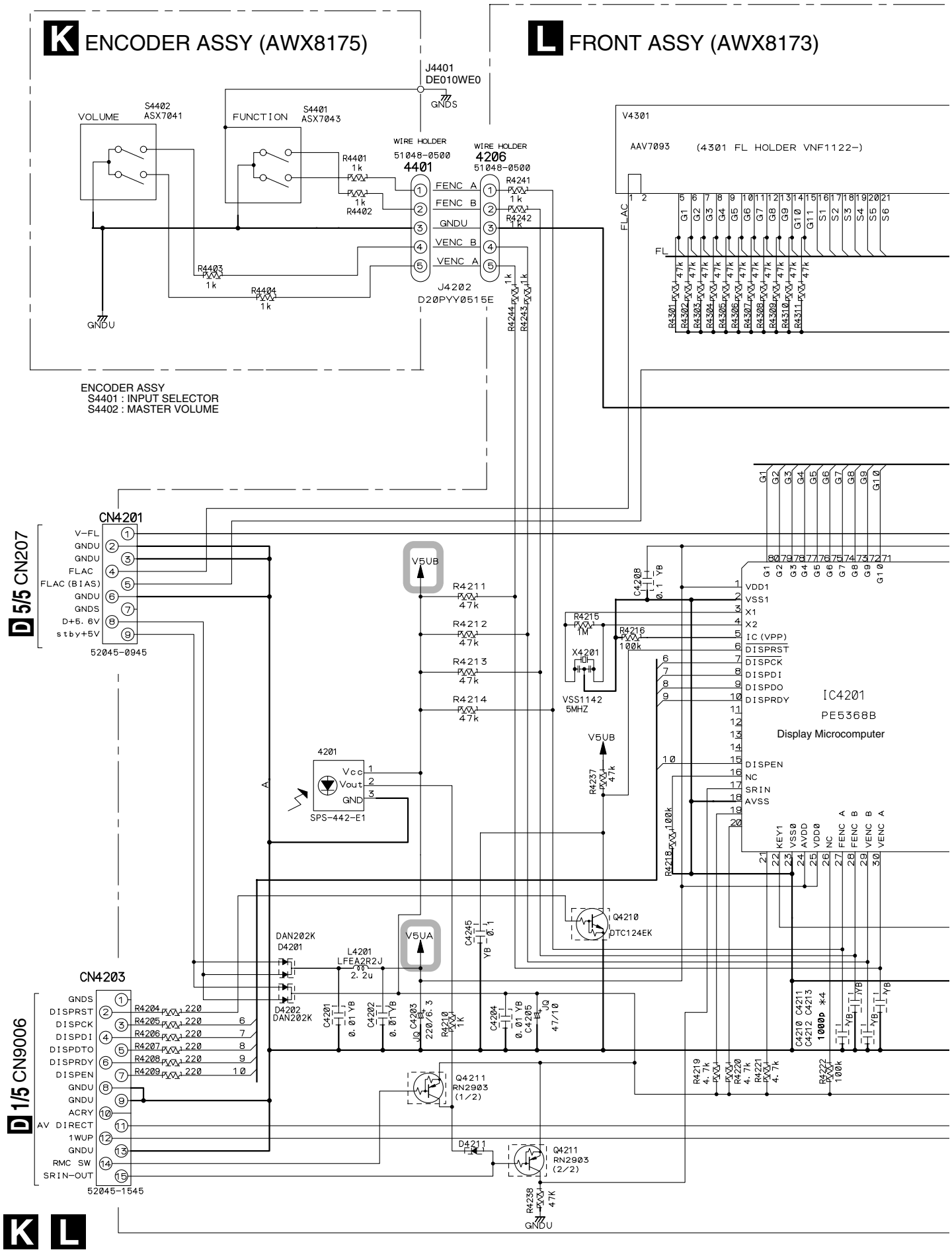
C

D

E

F

3.16 ENCODER, FRONT and POWER SW ASSYS



NOTE

1. RESISTORS

Unit: k-kΩ, M-MΩ or Ω unless otherwise noted.
Rated power: 1/16W unless otherwise noted.
Tolerance: (J)± 5% unless otherwise noted.

2. CAPACITORS

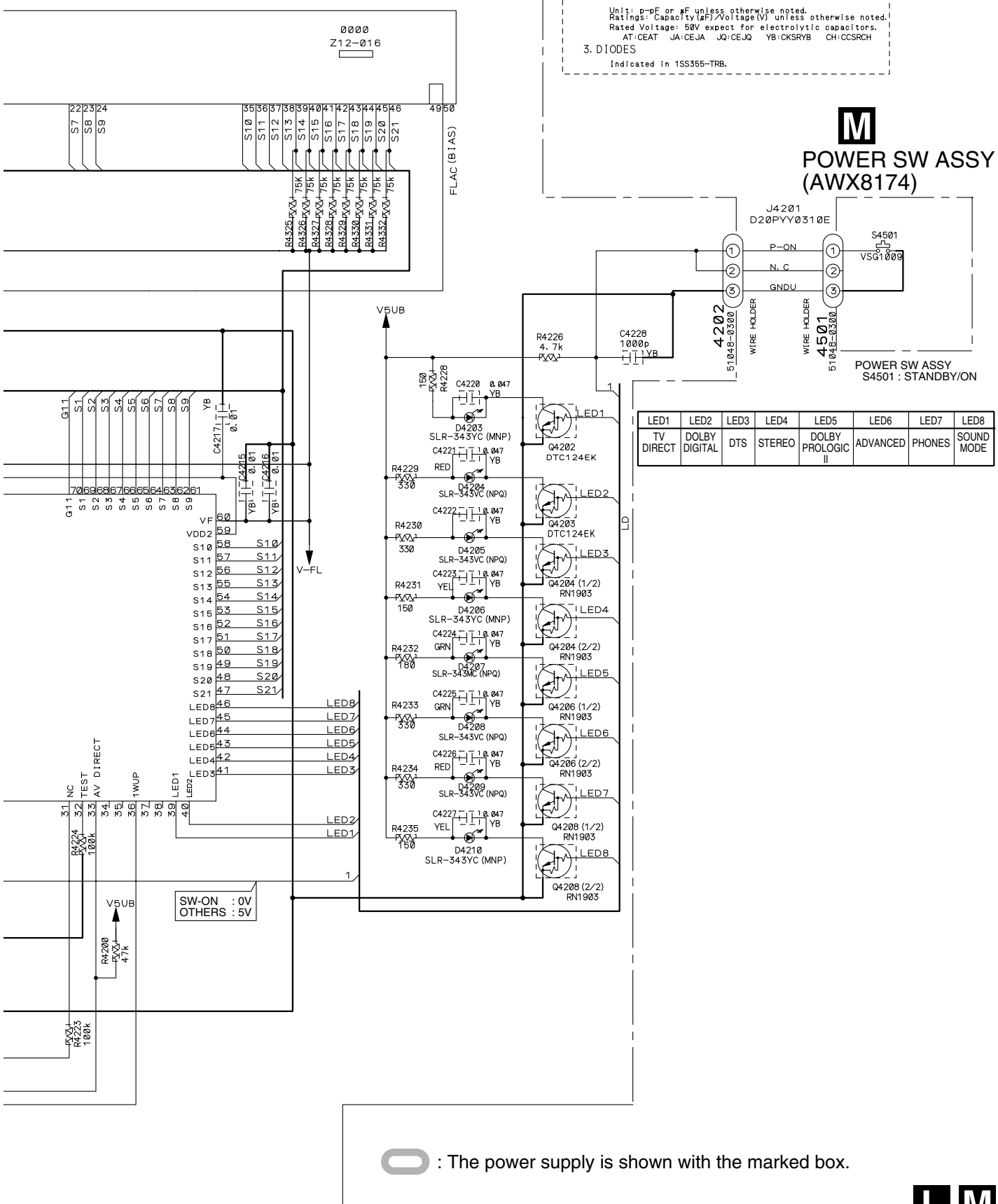
Unit: p-pF or μF unless otherwise noted.
Ratings: Capacity(μF)/Voltage(V) unless otherwise noted.
Rated Voltage: 50V expect for electrolytic capacitors.
AT:CEAT JA:CEJA JQ:CEJQ YB:CKSRYB CH:CCSRCH

3. DIODES

Indicated in 1SS355-TRB.

M

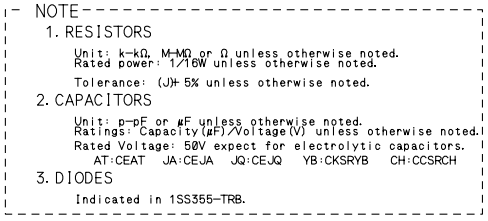
POWER SW ASSY (AWX8174)

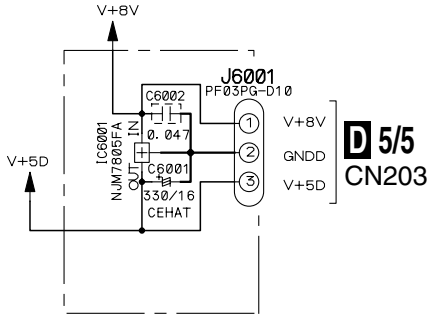


LED1	LED2	LED3	LED4	LED5	LED6	LED7	LED8
TV DIRECT	DOLBY DIGITAL	DTS	STEREO	DOLBY PROLOGIC II	ADVANCED	PHONES	SOUND MODE

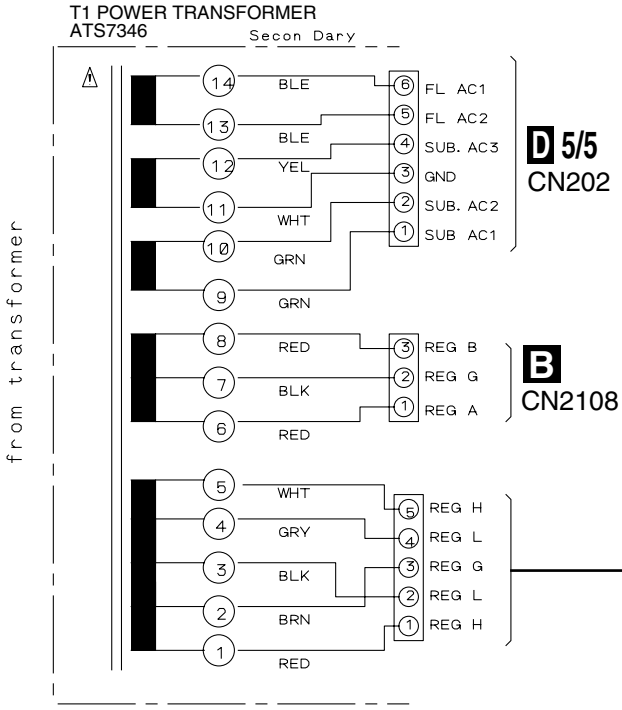
: The power supply is shown with the marked box.

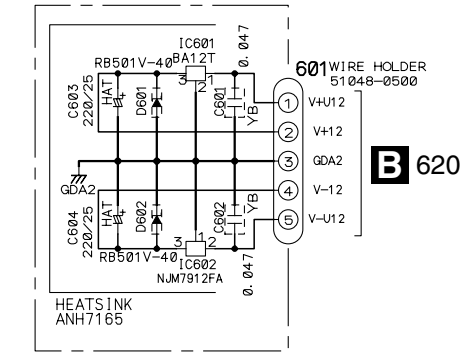
3.17 PRIMARY, D5V, 12V and VHVL ASSYS


NOTE
1. RESISTORS
Unit: k-kΩ, M-MΩ or Ω unless otherwise noted.
Rated power: 1/16W unless otherwise noted.
Tolerance: (J)± 5% unless otherwise noted.
2. CAPACITORS
Unit: p-pF or μF unless otherwise noted.
Ratings: Capacity(μF)/Voltage(V) unless otherwise noted.
Rated Voltage: 50V expect for electrolytic capacitors.
AT:CEAT JA:CEJA JQ:CEJQ YB:CKSRYB CH:CCSRCH
3. DIODES
Indicated in 1SS355-TRB.



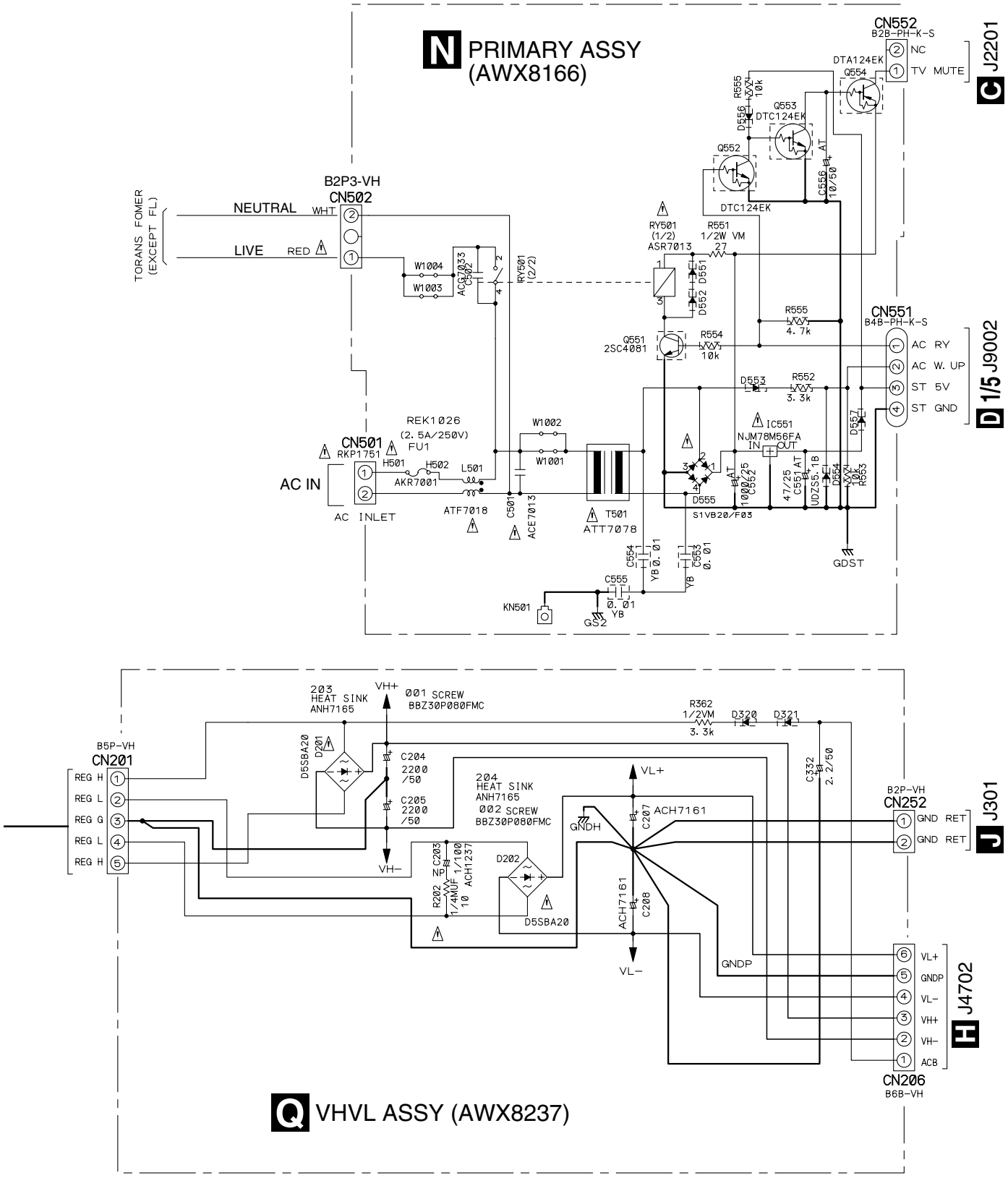
O D5V ASSY (AWX8224)





P 12V ASSY (AWX8170)

O **P**



• NOTE FOR FUSE REPLACEMENT

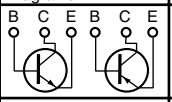
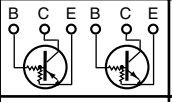
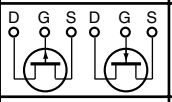
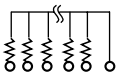
CAUTION - FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE WITH SAME TYPE AND RATINGS ONLY.

N Q

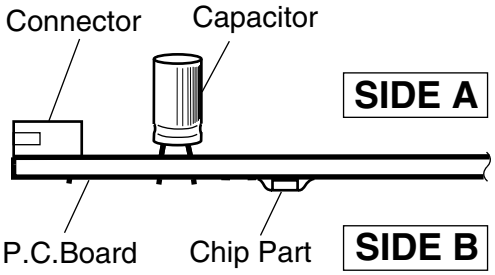
4. PCB CONNECTION DIAGRAM

NOTE FOR PCB DIAGRAMS :

1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol In PCB Diagrams	Symbol In Schematic Diagrams	Part Name
		Transistor
		Transistor with resistor
		Field effect transistor
		Resistor array
		3-terminal regulator

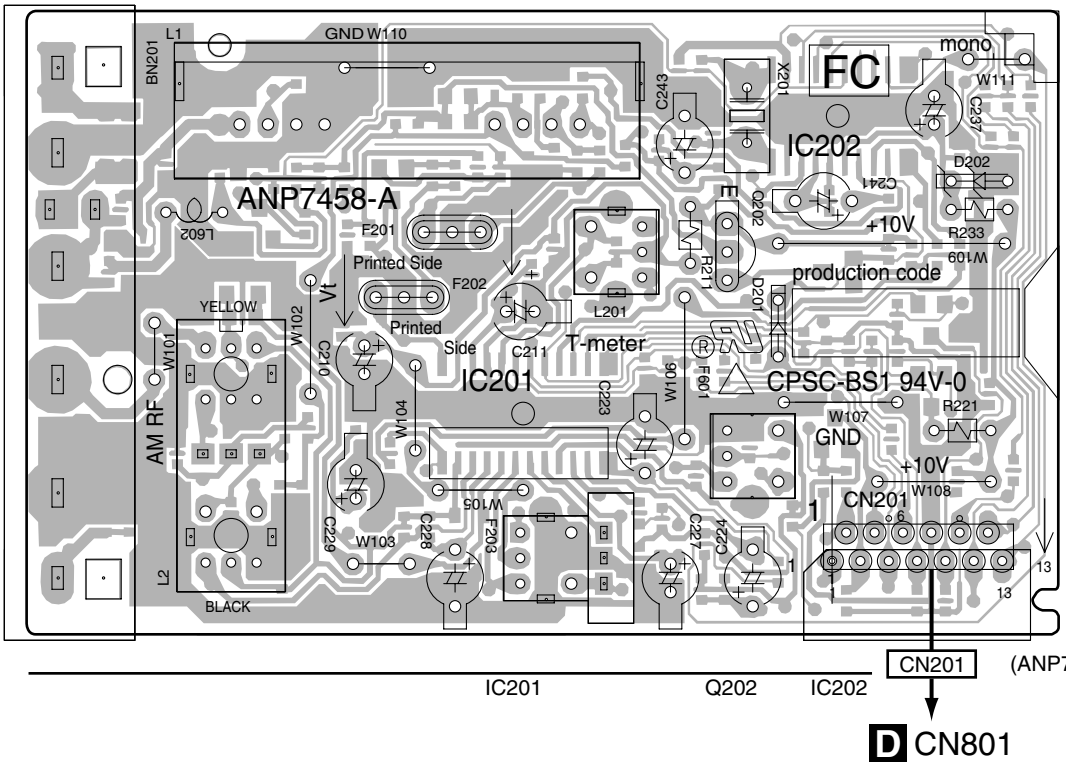
3. The parts mounted on this PCB include all necessary parts for several destinations.
   For further information for respective destinations, be sure to check with the schematic diagram.
4. View point of PCB diagrams.



4.1 FM/AM TUNER MODULE

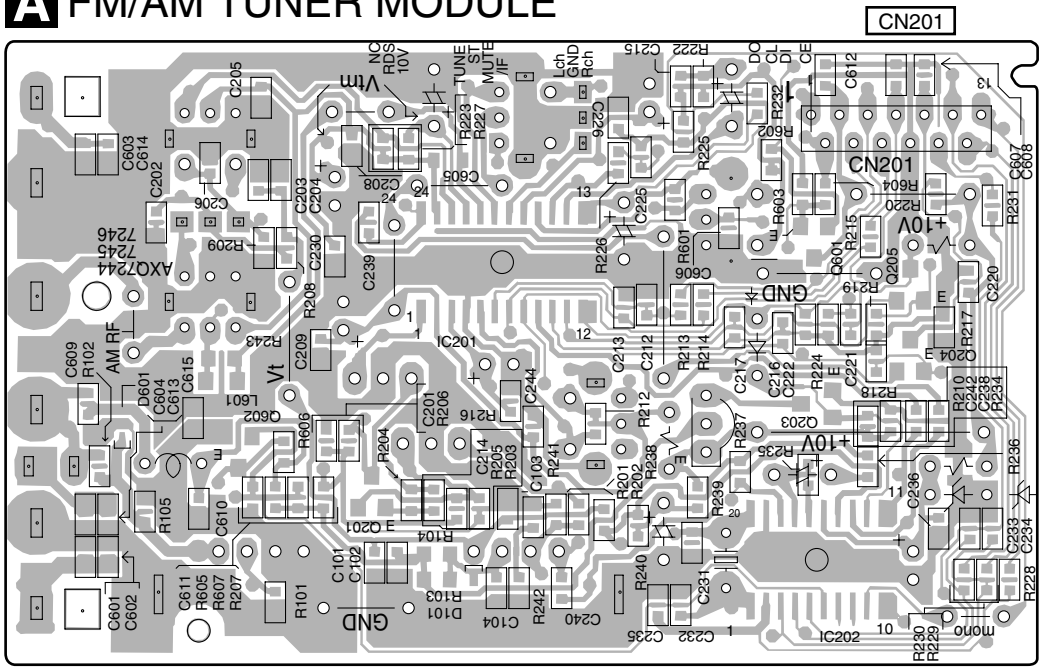
SIDE A **SIDE A**

A FM/AM TUNER MODULE



SIDE B **SIDE B**

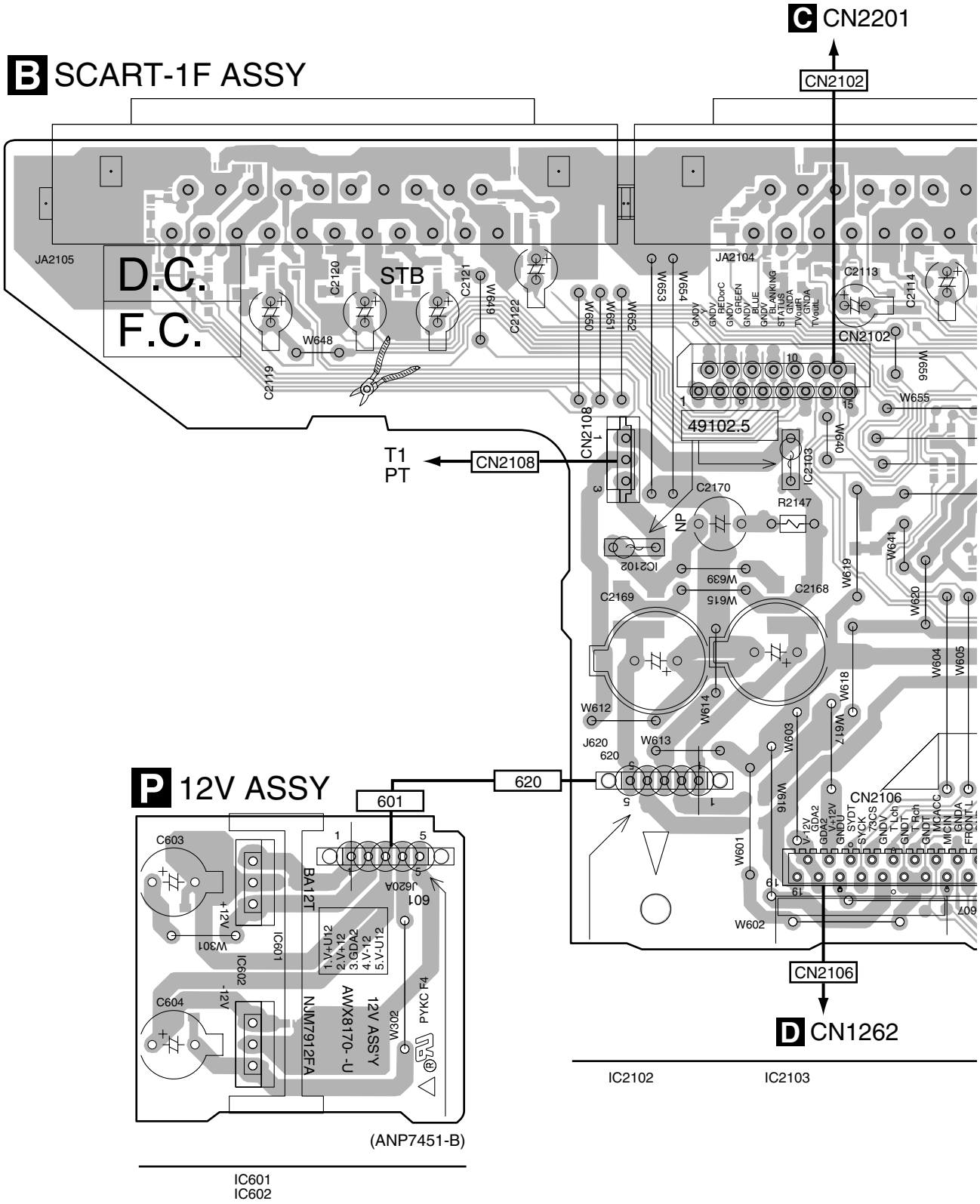
A FM/AM TUNER MODULE



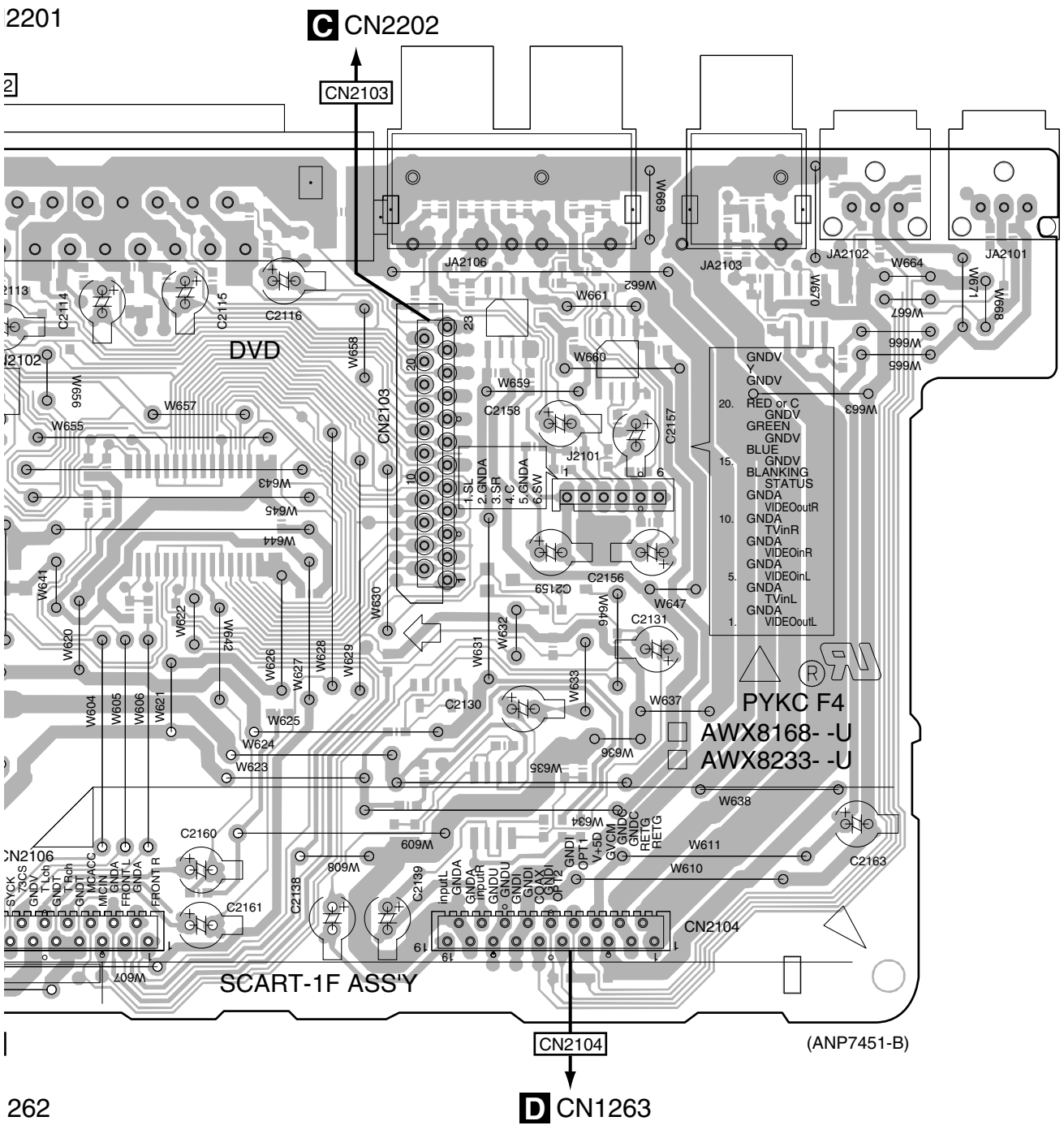
A A

4.2 SCART-1F and 12V ASSYS

SIDE A



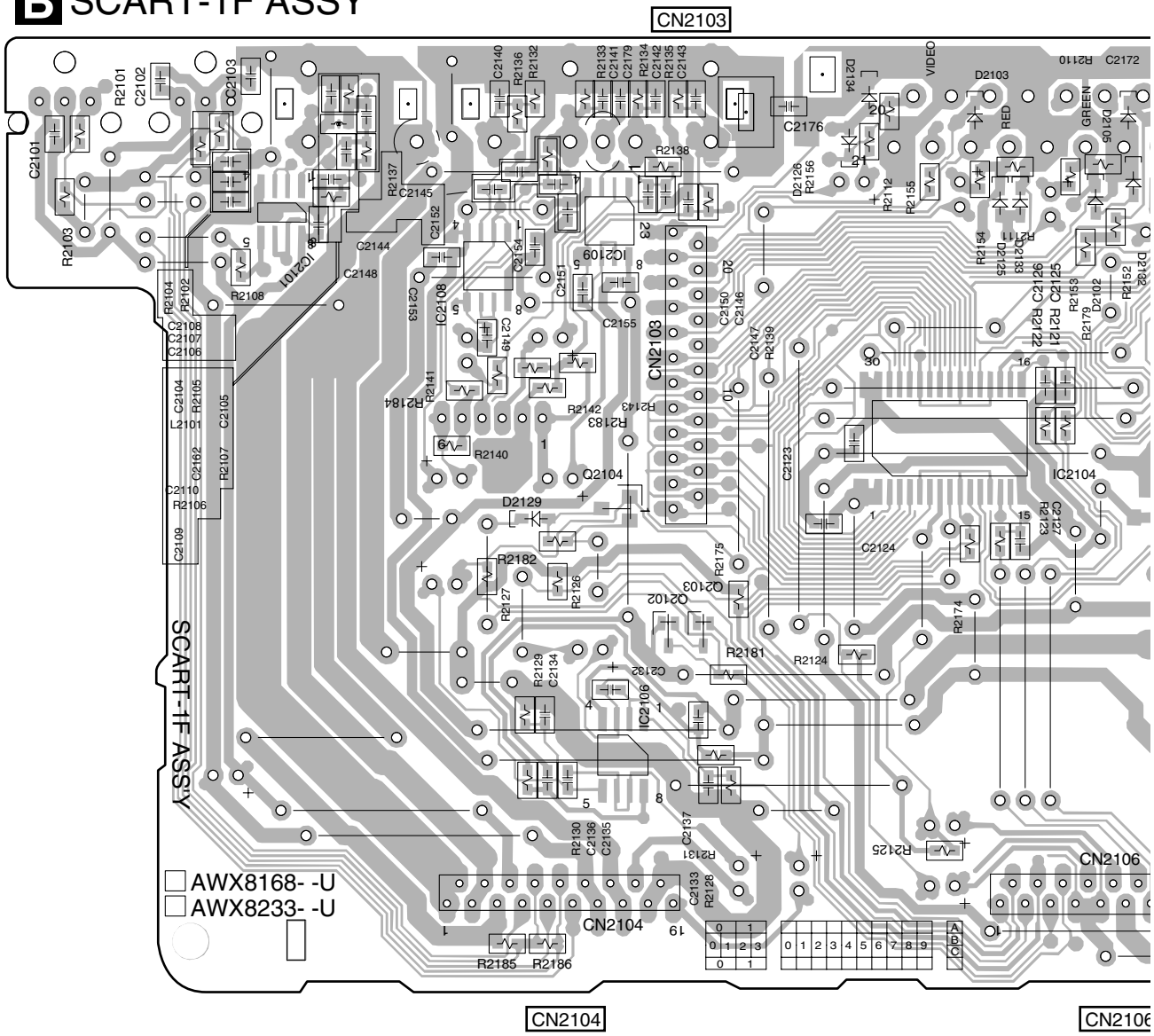
SIDE A


2201
C CN2202
CN2103
DVD
SCART-1F ASS'Y
PYKC F4
AWX8168- -U
AWX8233- -U
(ANP7451-B)
CN2106
CN2104
CN2104
D CN1263
262
JA2106
JA2103
JA2102
JA2101
J2101
C2158
C2157
C2156
C2159
C2131
C2130
C2160
C2161
C2138
C2139
C2163
C2116
C2115
C2114
W669
W662
W661
W660
W659
W658
W657
W656
W655
W643
W645
W644
W641
W622
W642
W620
W626
W627
W628
W629
W630
W631
W632
W633
W646
W647
W637
W636
W635
W638
W634
W611
W610
W609
W808
W607
W604
W605
W606
W621
W625
W624
W623
W664
W667
W670
W671
W668
W666
W665
W663
GNDV
Y
GNDV
20. RED or C
GNDV
GREEN
GNDV
BLUE
15. GNDV
BLANKING
STATUS
GNDA
VIDEOoutR
10. GNDA
TVinR
GNDA
VIDEOinR
GNDA
5. VIDEOinL
GNDA
TVinL
GNDA
1. VIDEOoutL
1.SL
2.GNDA
3.SR
4.C
5.GNDA
6.SW
SYCK
73CS
GNDV
T Lch
GNDT
T Rch
GNDT
MCIN
MCACC
GNDA
FRONT L
GNDA
FRONT R
inputL
GNDA
GNDA
inputR
GNDU
GNDU
GNDI
GNDI
COAX
GNDI
OPT
GNDI
OPT
V+5D
GVCM
GNDC
GNDC
RETG
RETG

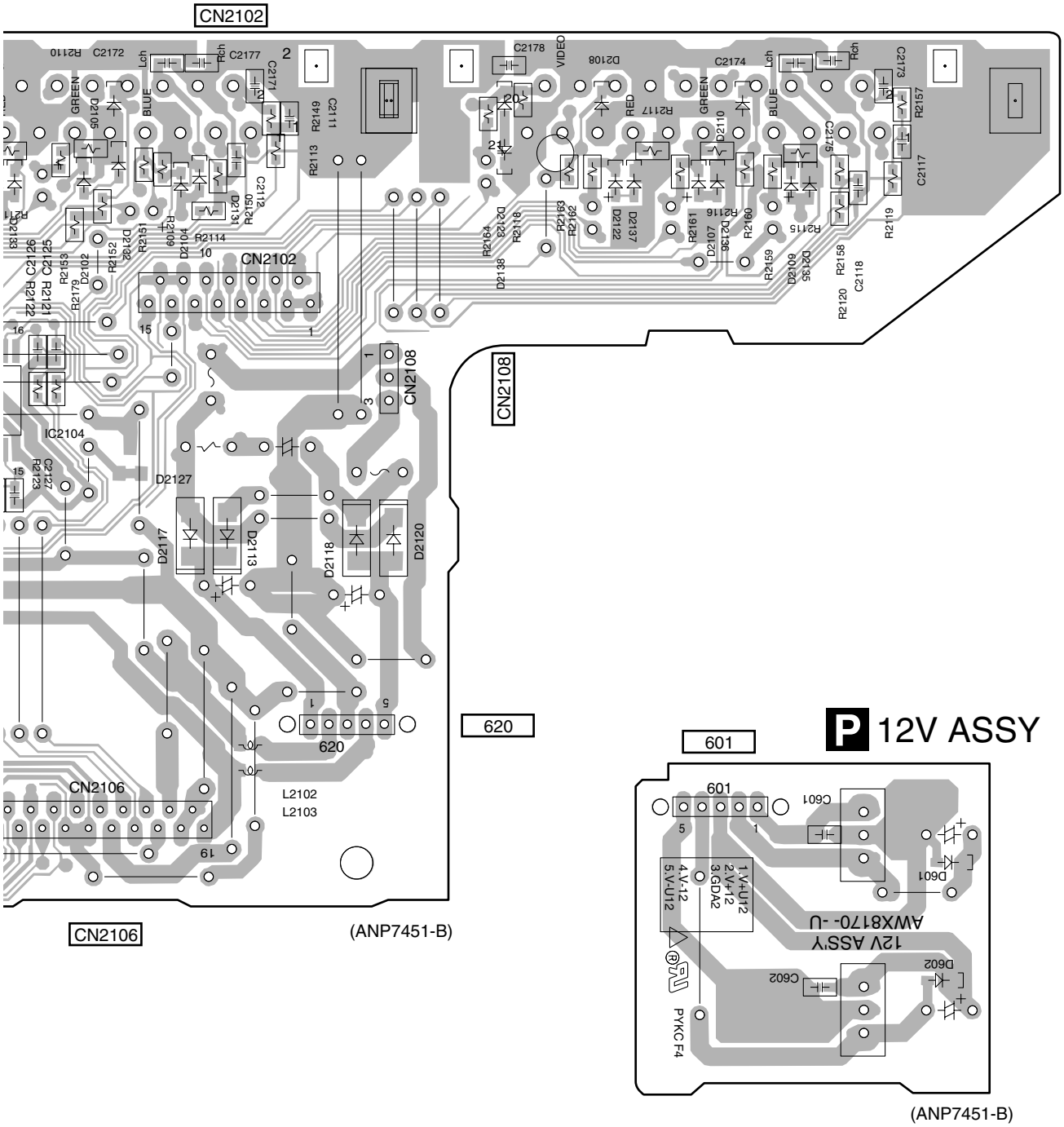
SIDE B

IC2101 IC2108 IC2109 Q2104 Q2102 Q2103 IC2106 IC2104

B SCART-1F ASSY



SIDE B

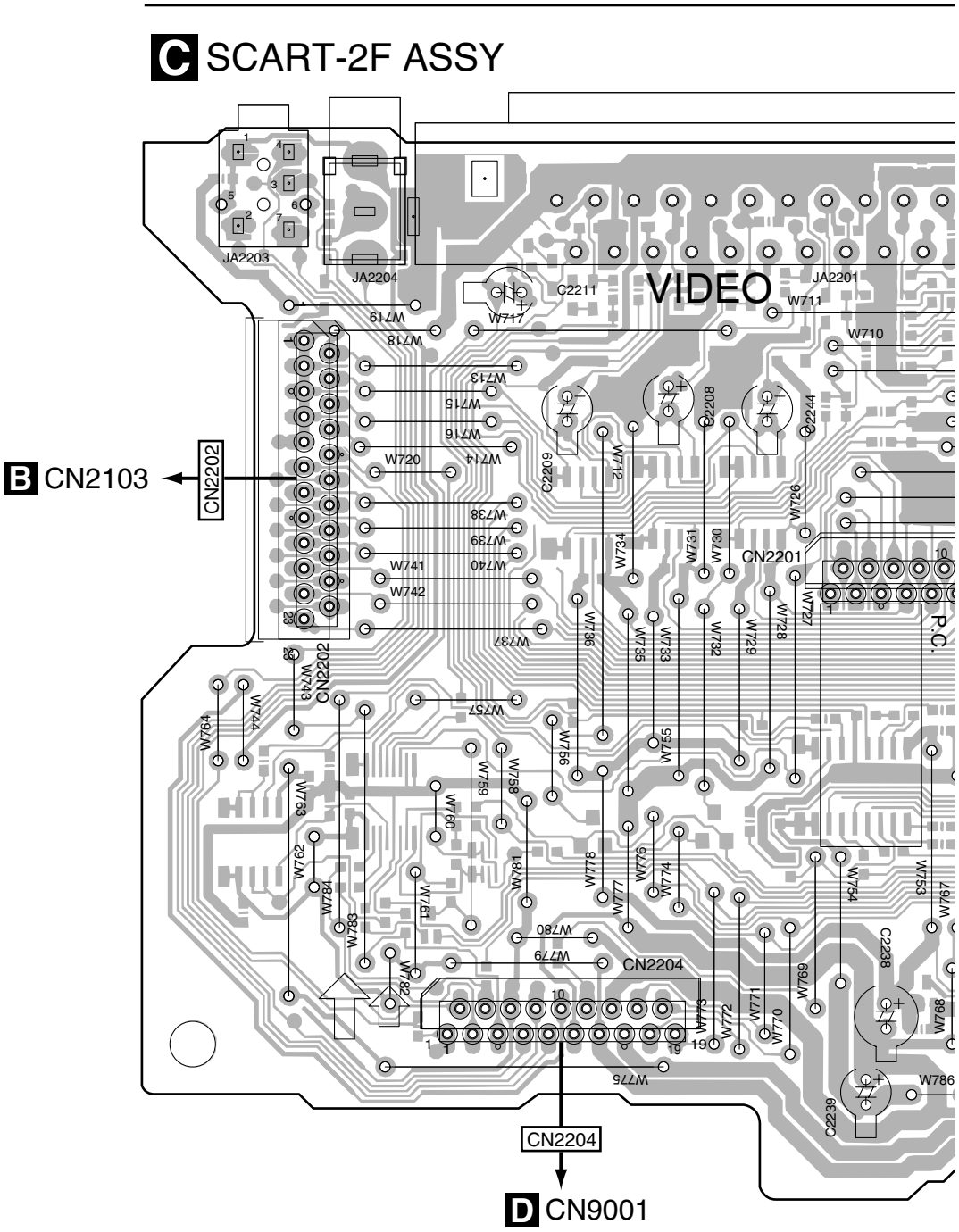


P 12V ASSY

P B

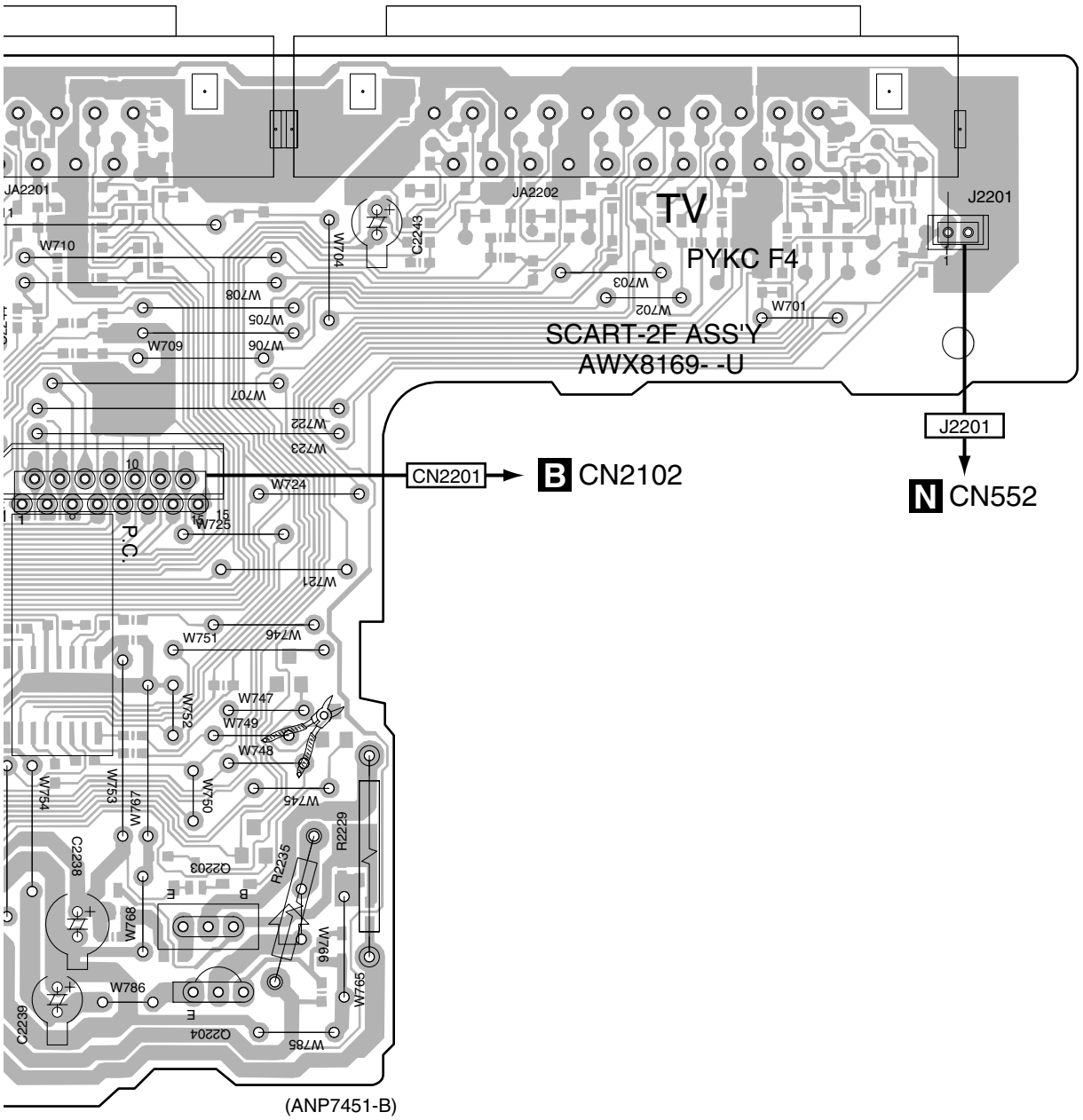
4.3 SCART-2F ASSY

SIDE A



SIDE A

Q2203
Q2204

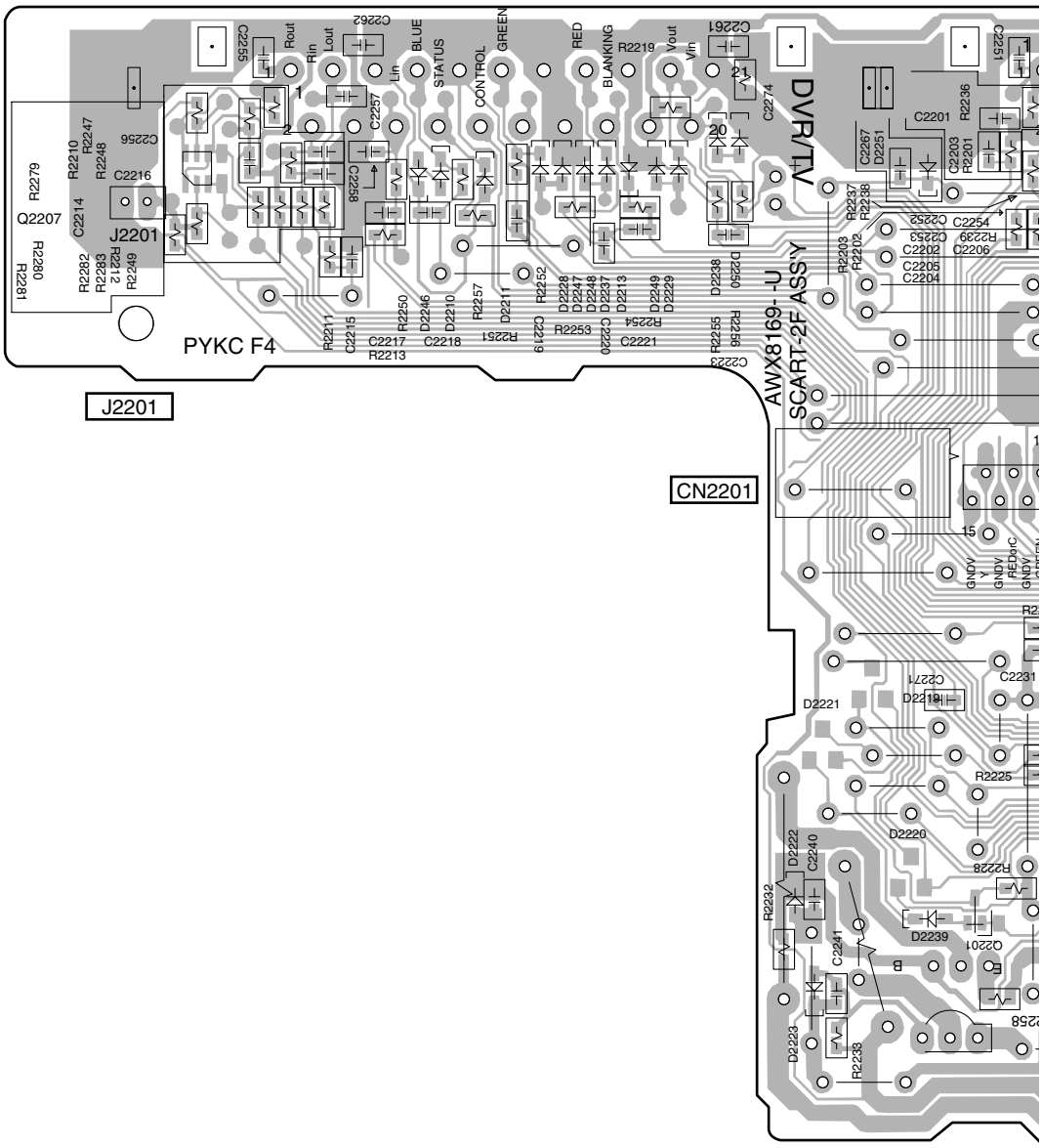


(ANP7451-B)

SIDE B

Q2207 Q2201

C SCART-2F ASSY

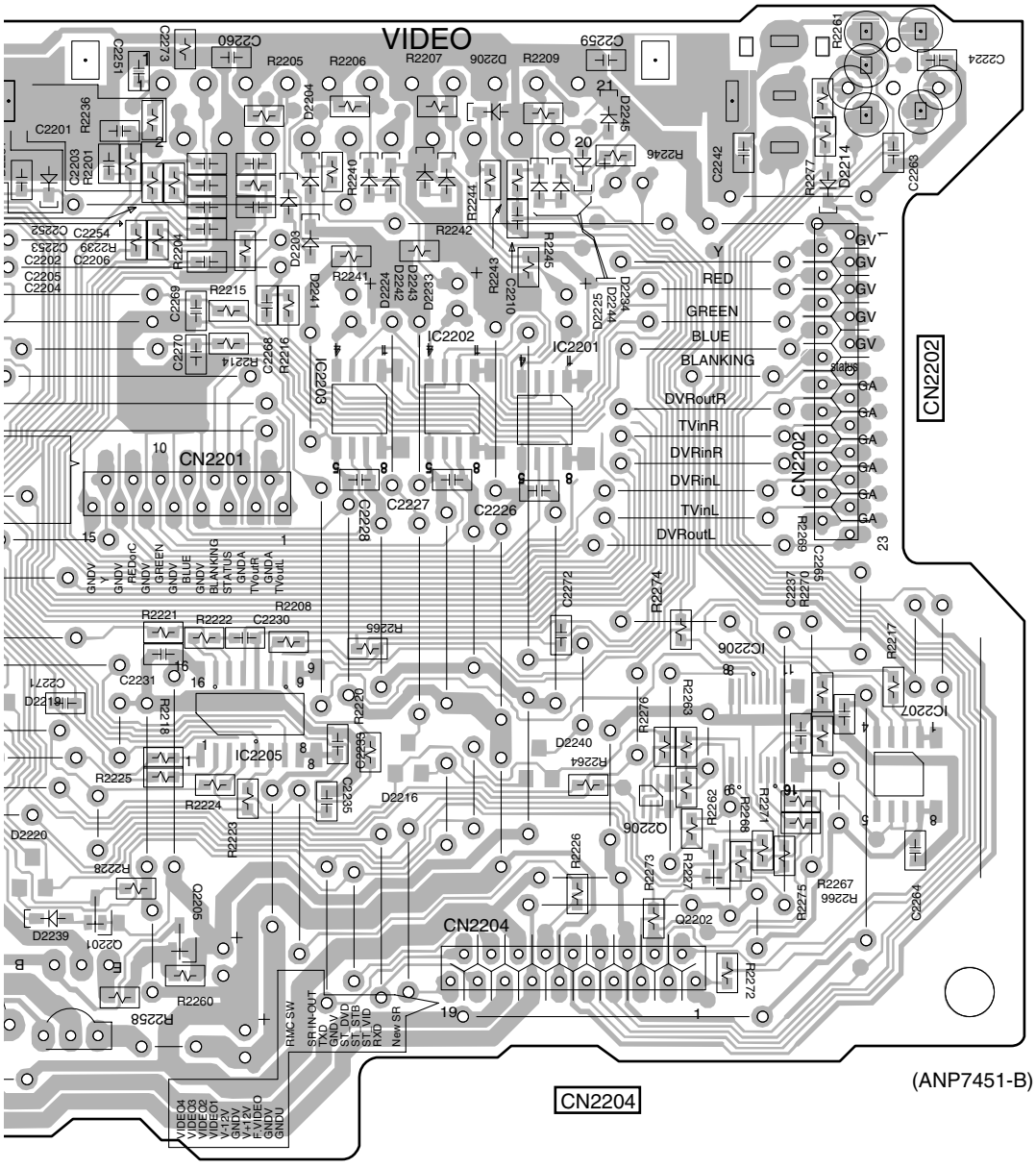


SIDE B

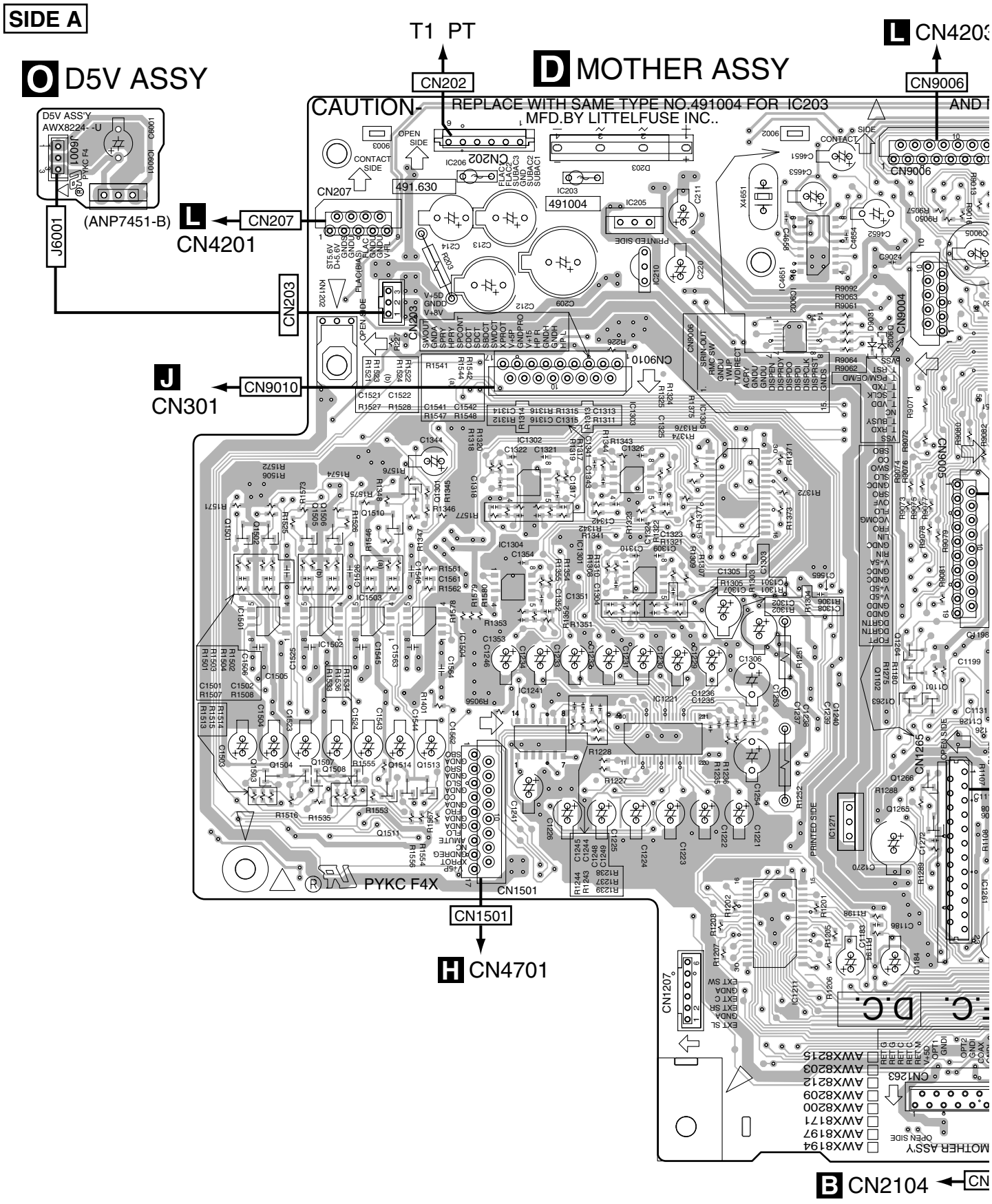
IC2203 IC2202 IC2201

Q2201 IC2205 Q2206 IC2206

Q2205 Q2202 IC2207



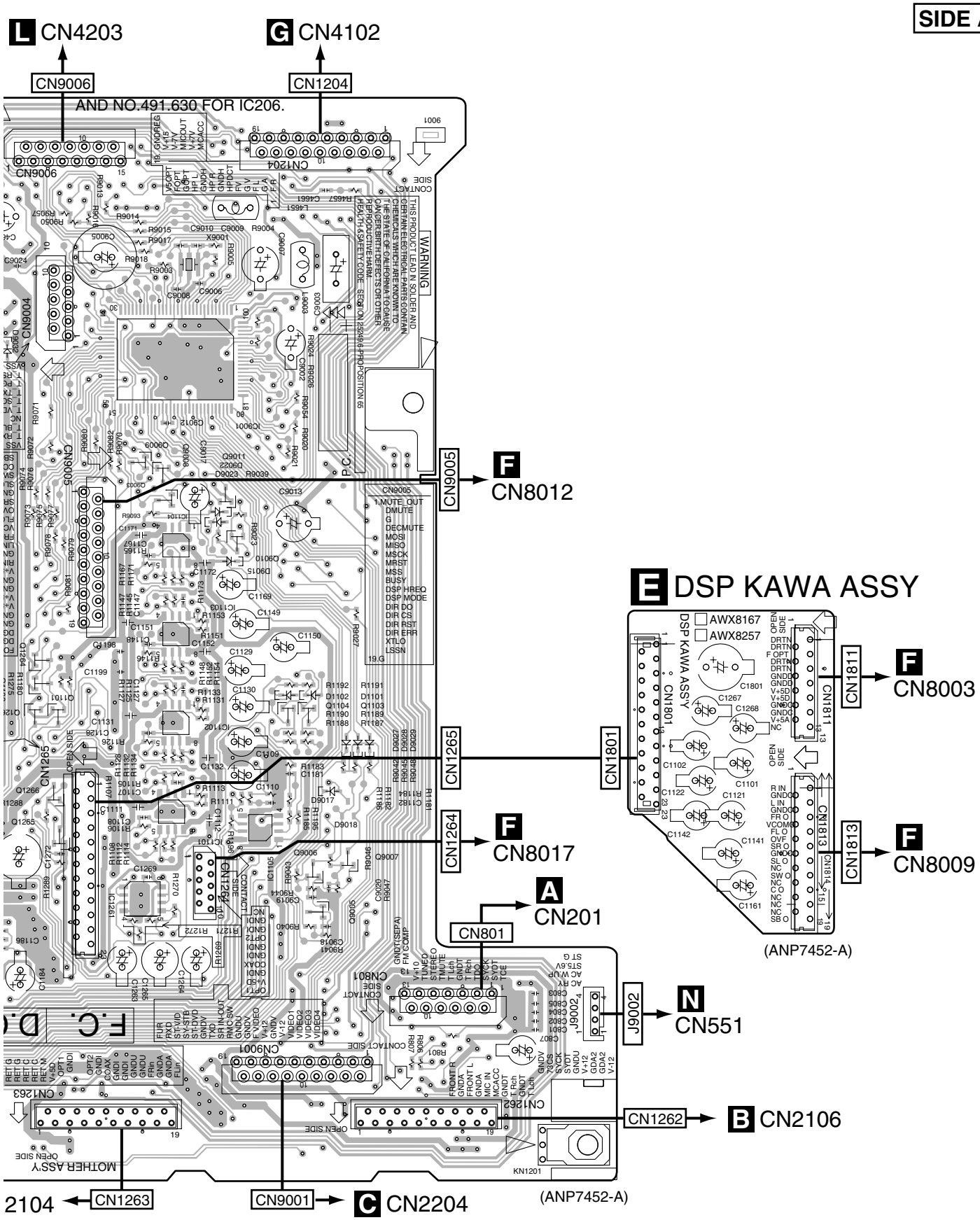
4.4 MOTHER, DSP KAWA and D5V ASSYS



Q1301 IC206 IC203 IC205 IC4651
Q1501 Q1502 Q1505 Q1506 Q1510 IC1302 IC210 IC9002 Q1264
IC1501 IC1502 IC1503 IC1504 IC1304 IC1303 Q1102
Q1503 Q1504 Q1508 Q1511 Q1513 IC1241 IC1301 Q1263 Q1101
Q1507 Q1514 IC1221 Q1266 Q1265

D O

SIDE A

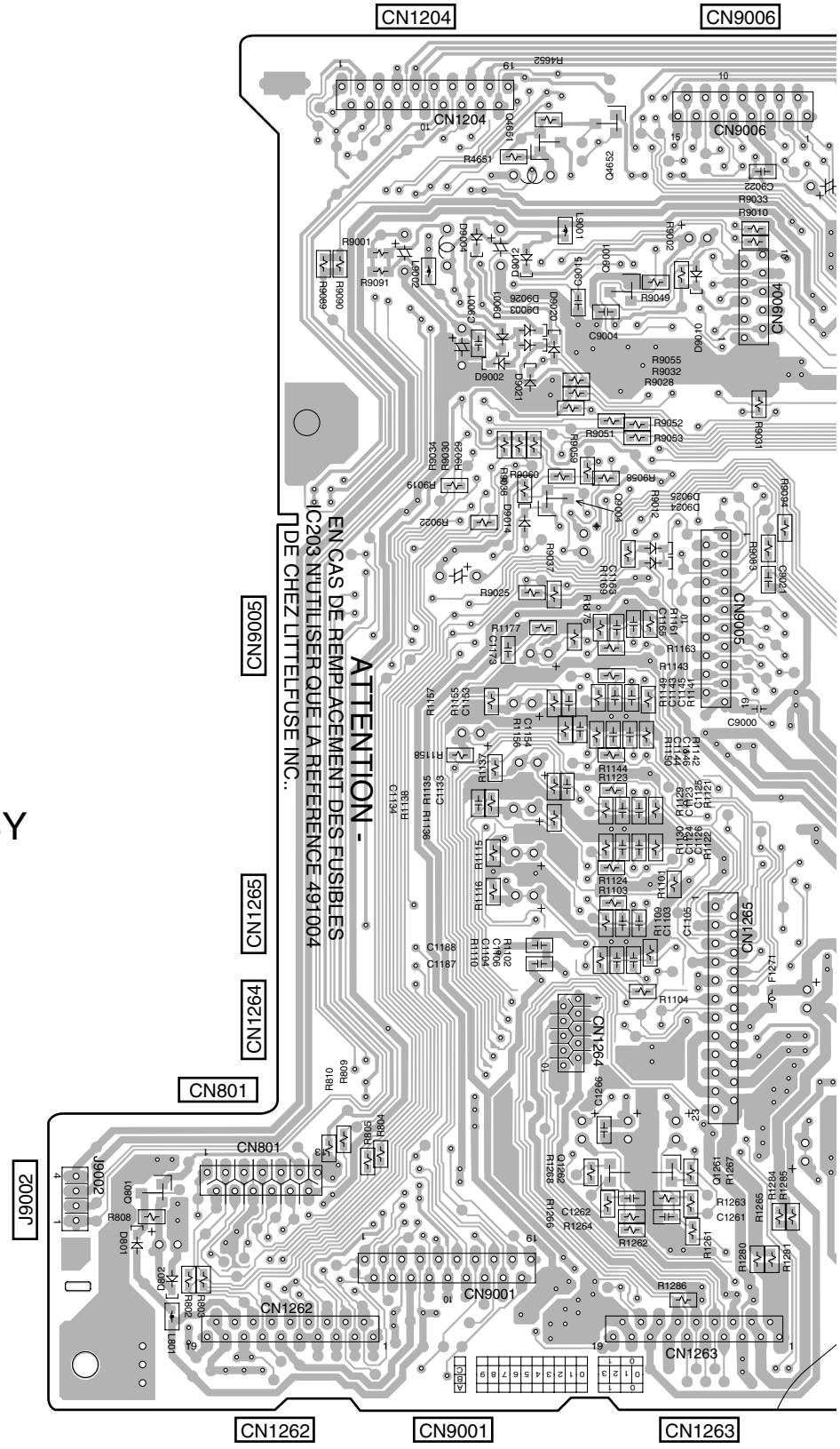


IC9001

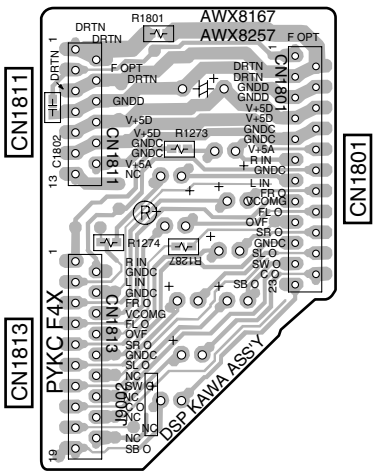
Q1264 Q9009 Q9008 Q9011
Q1102 Q9003 Q9010 Q1104 Q1103
Q1263 Q1101 IC1101-IC1104 IC1105 Q9006 Q9007
Q1266 Q1265 IC1261 Q9005

D E

D MOTHER ASSY



E DSP KAWA ASSY



(ANP7452-A)

D E

SIDE B

A

B

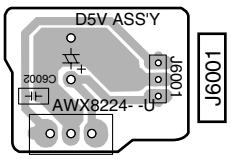
C

D

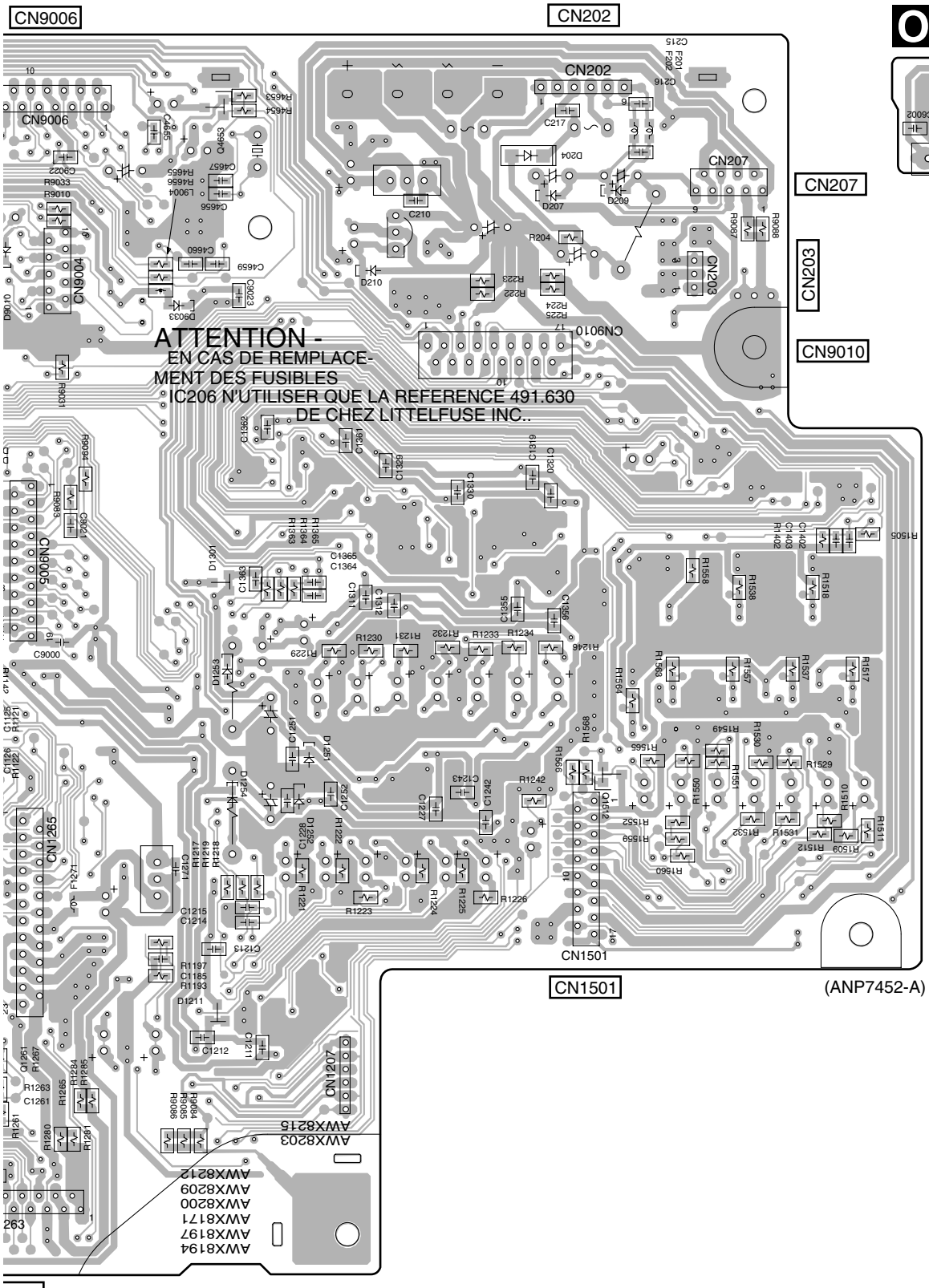
E

F

O D5V ASSY



(ANP7451-B)

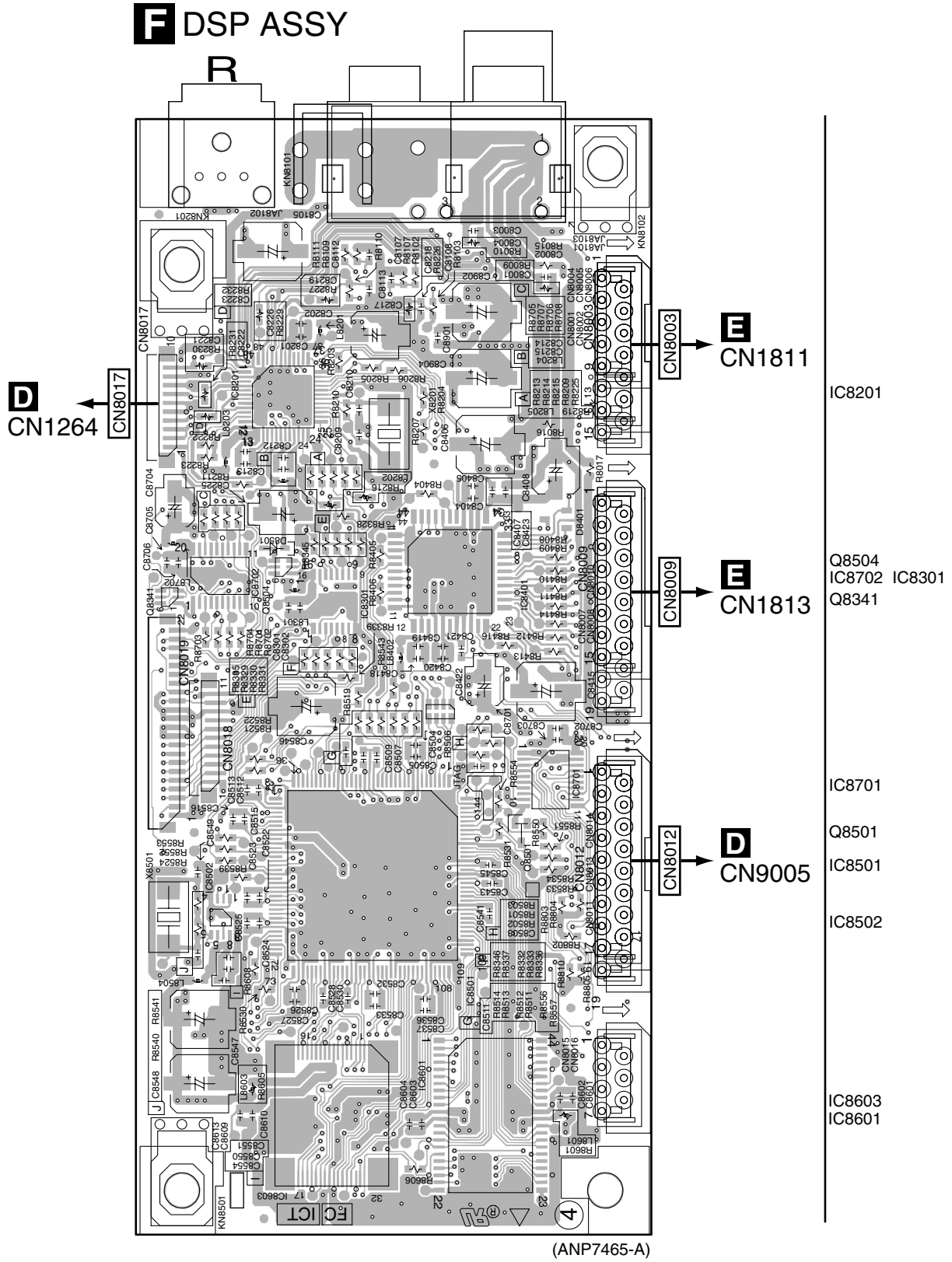


(ANP7452-A)

4.5 DSP ASSY

SIDE A

SIDE A



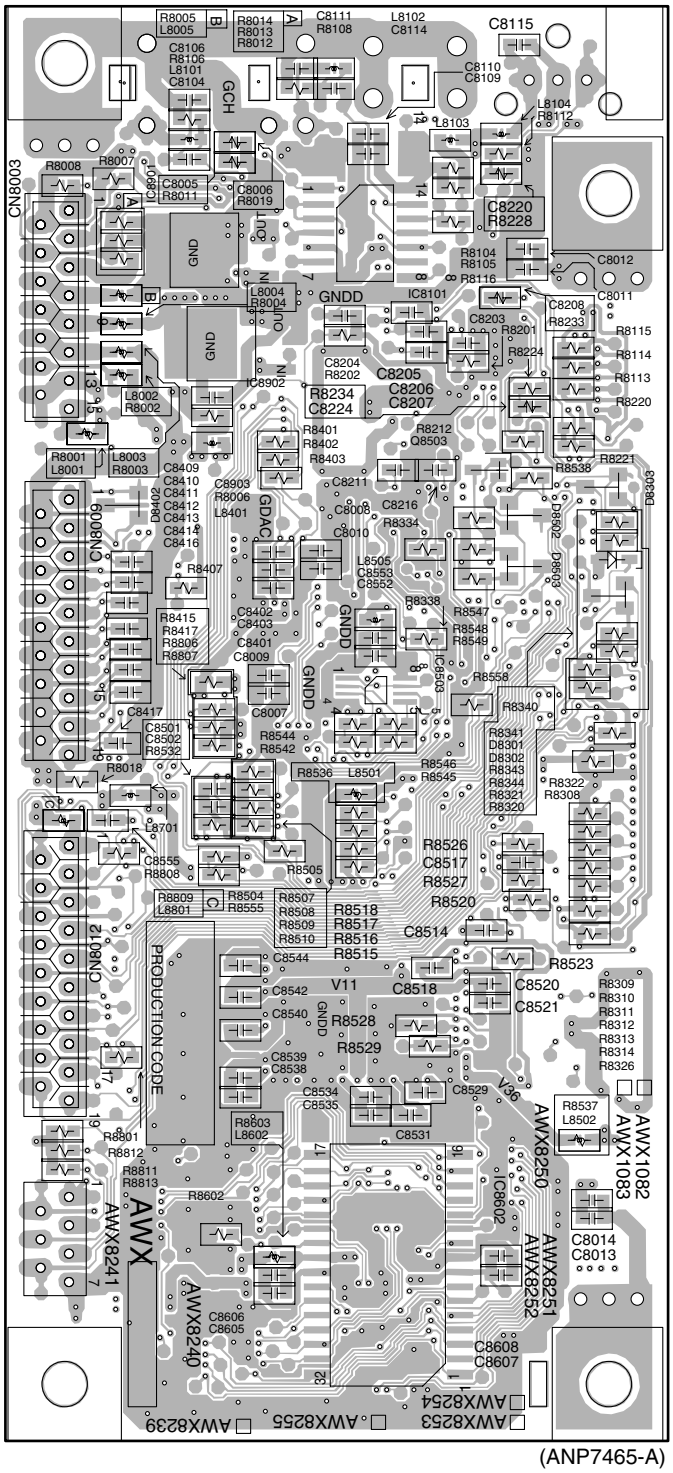
F

F

SIDE B

SIDE B

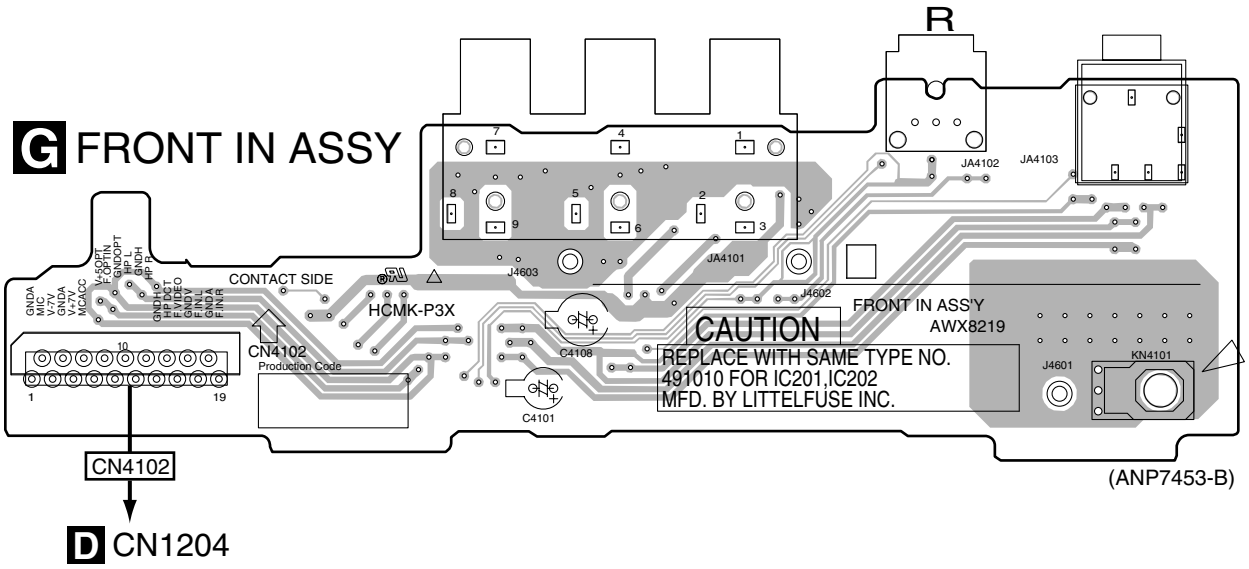
F DSP ASSY



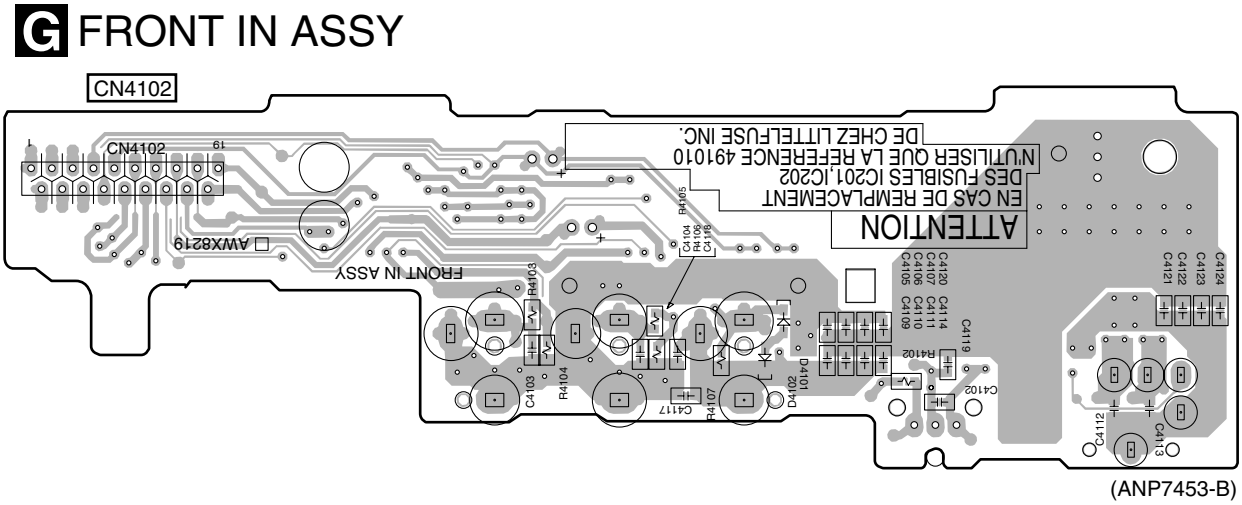
(ANP7465-A)

4.6 FRONT IN ASSY

SIDE A **SIDE A**

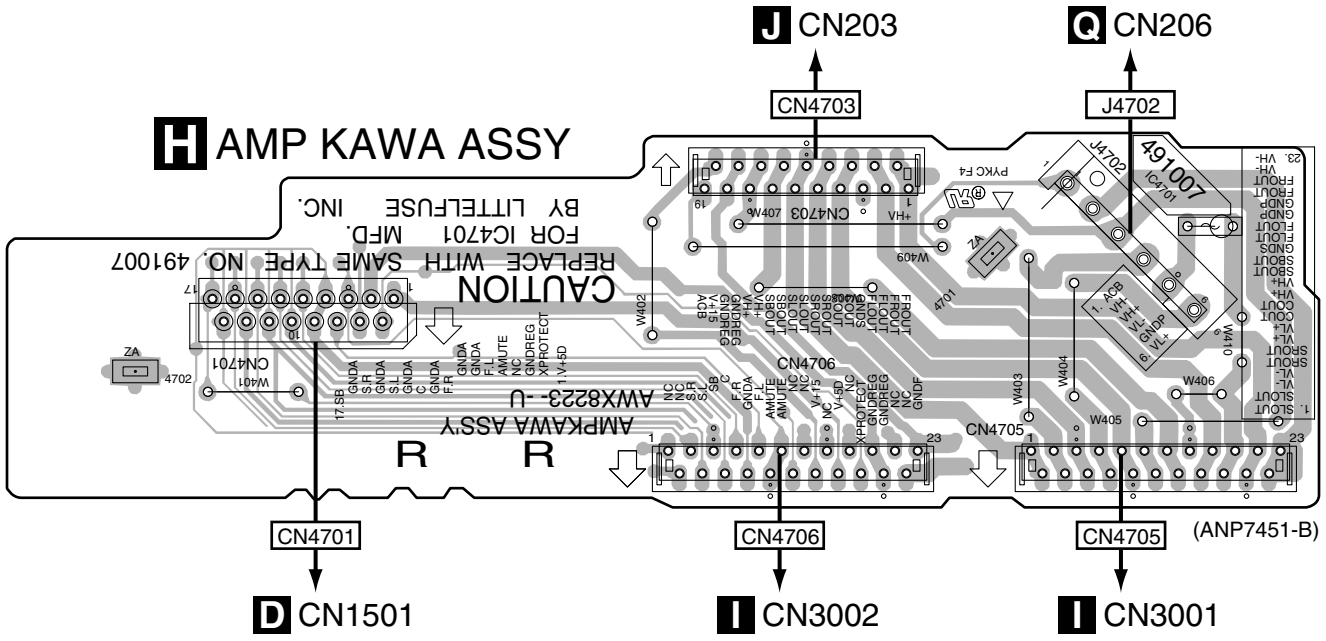


SIDE B **SIDE B**

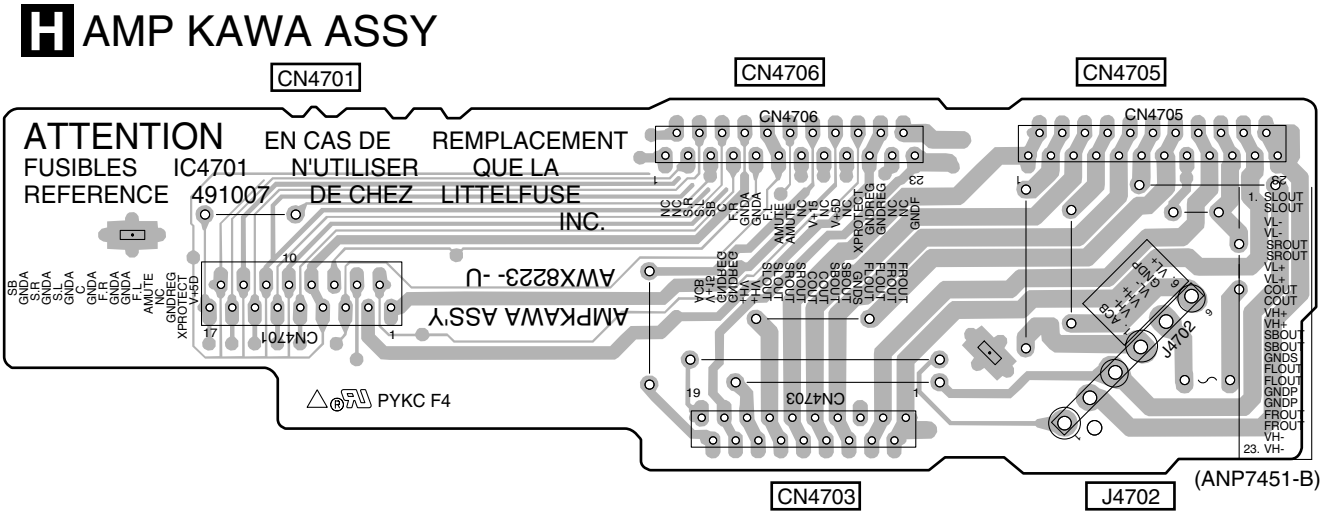


4.7 AMP KAWA ASSY

SIDE A



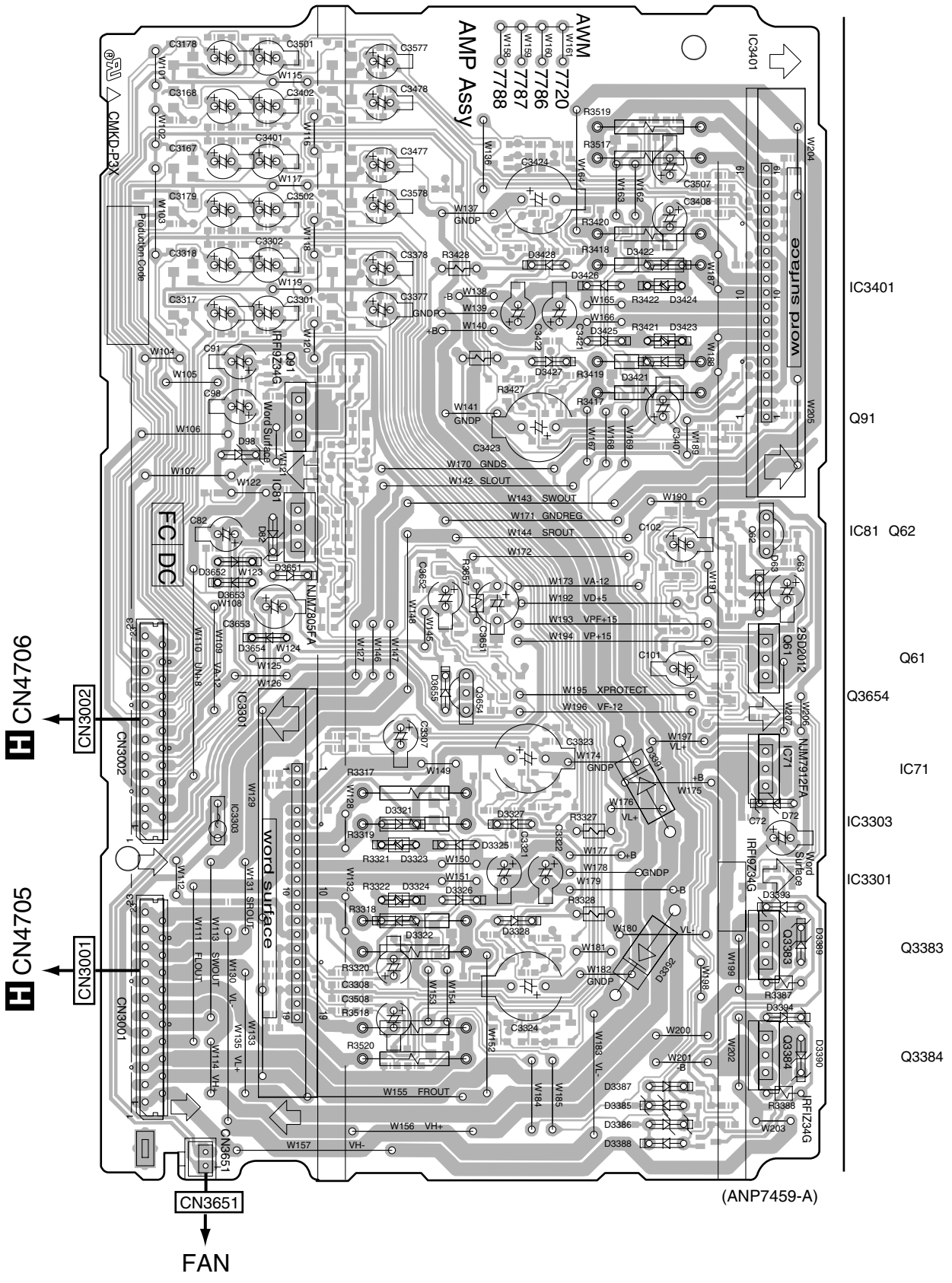
SIDE B



4.8 6CH AMP ASSY

SIDE A **SIDE A**

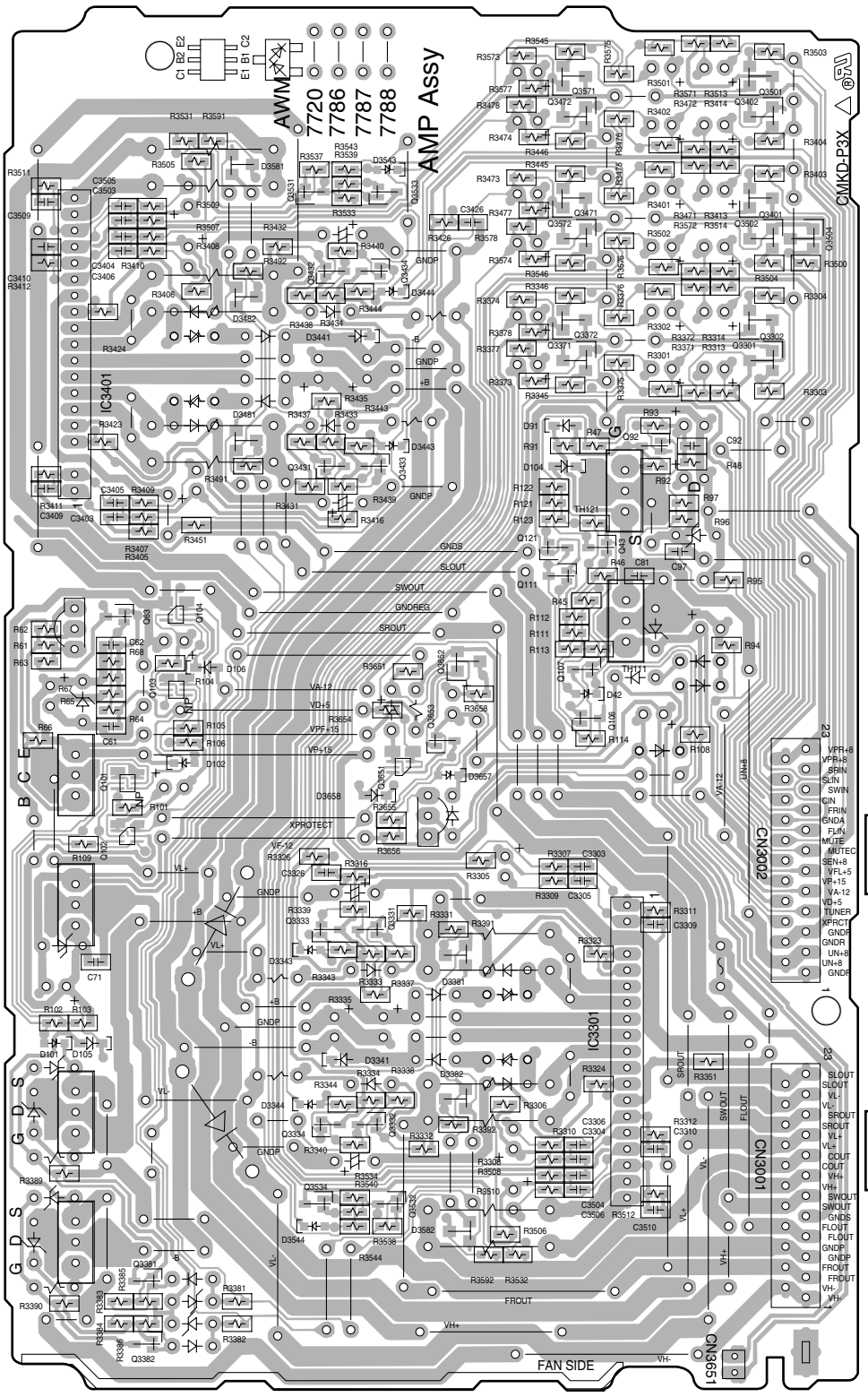
6CH AMP ASSY



SIDE B

SIDE B

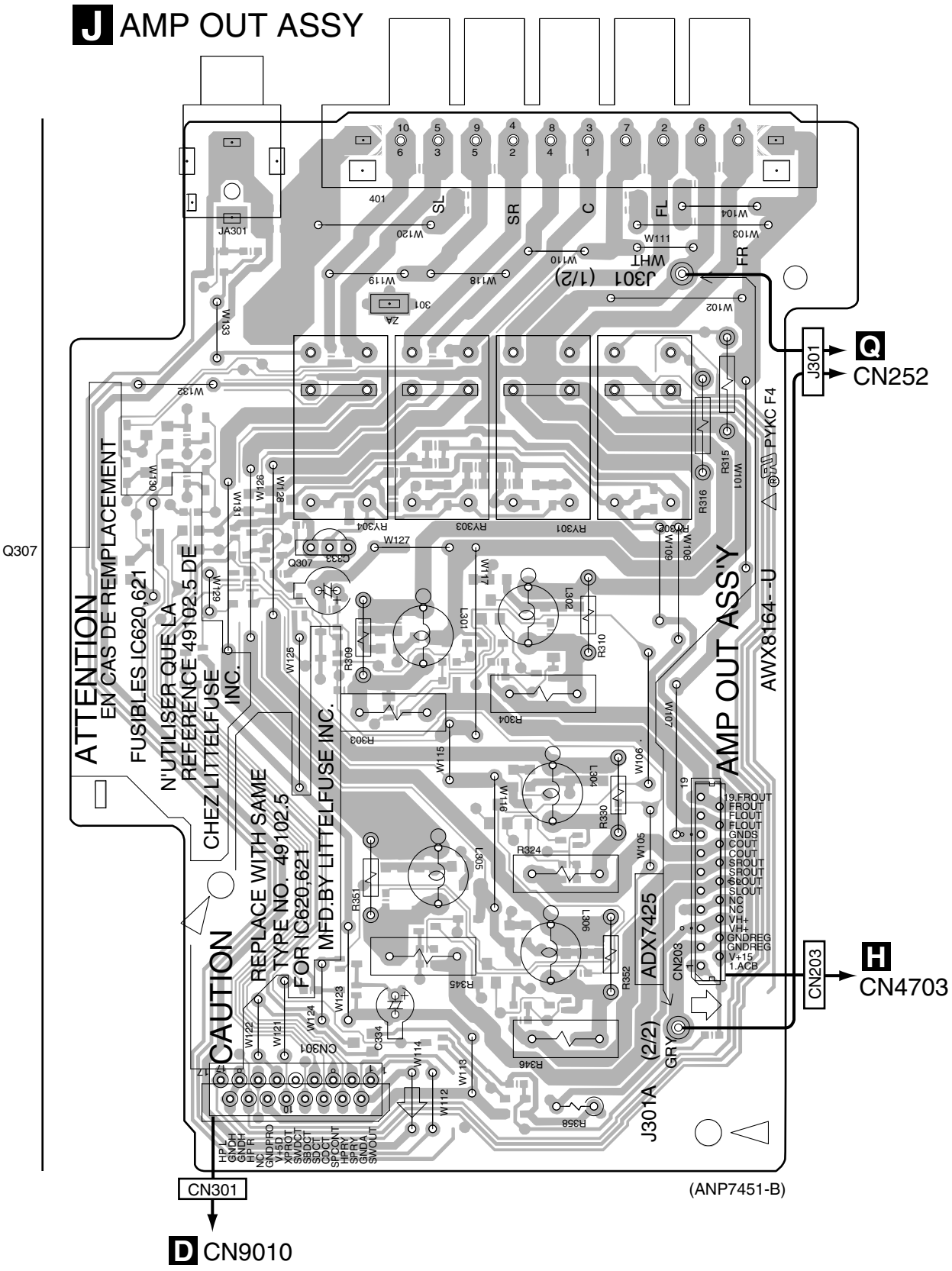
6CH AMP ASSY



4.9 AMP OUT ASSY

SIDE A

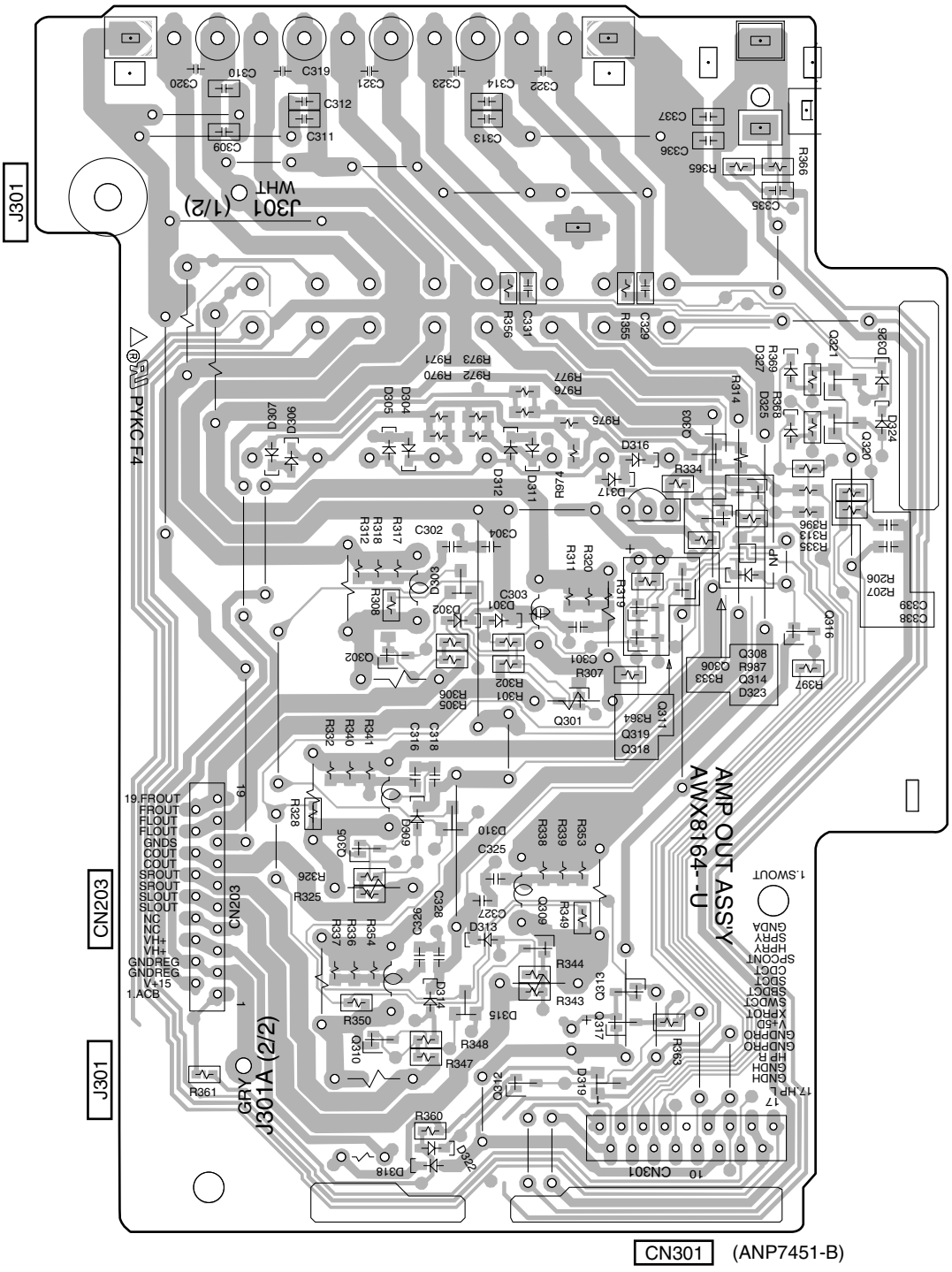
SIDE A



SIDE B

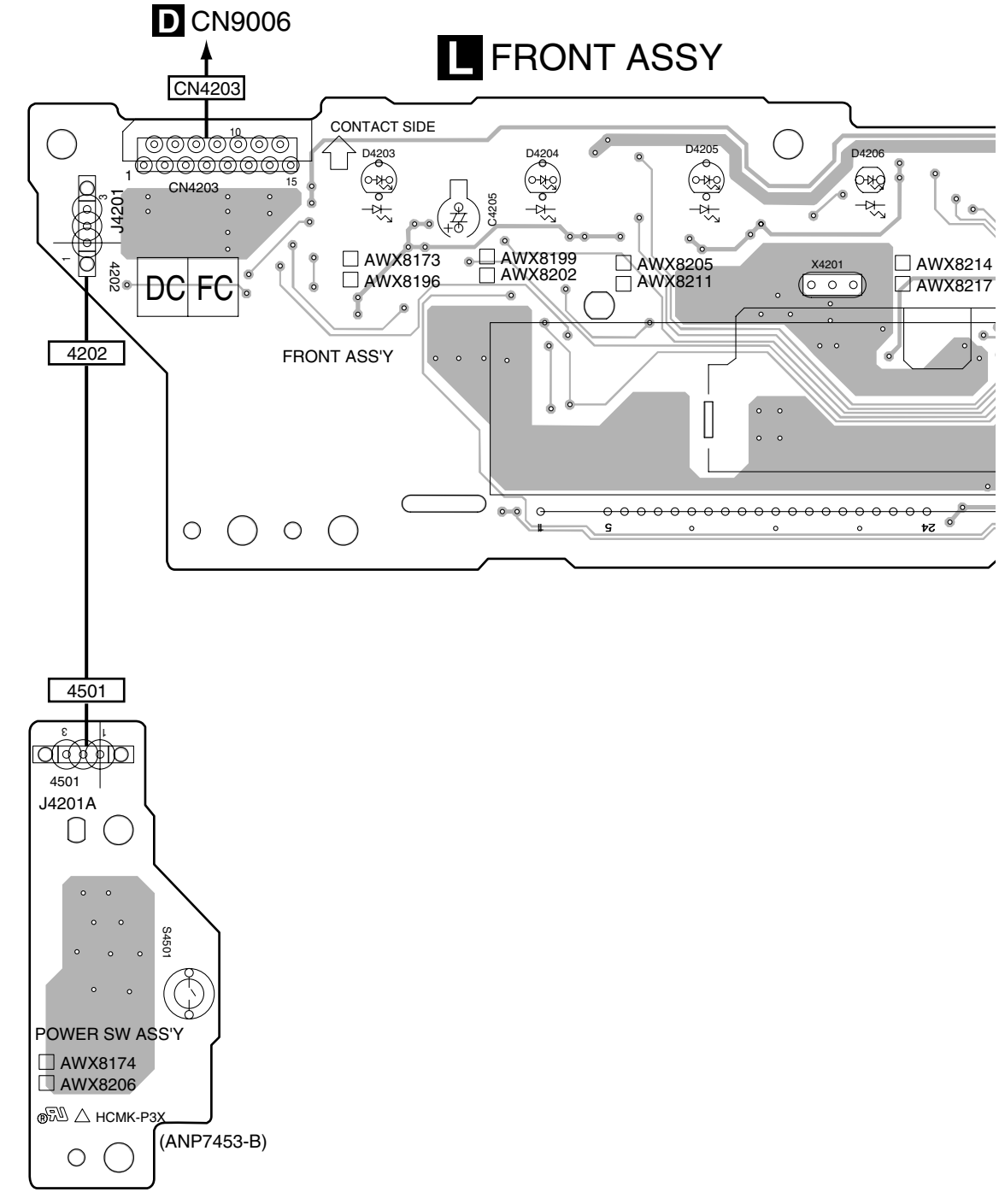
SIDE B

J AMP OUT ASSY



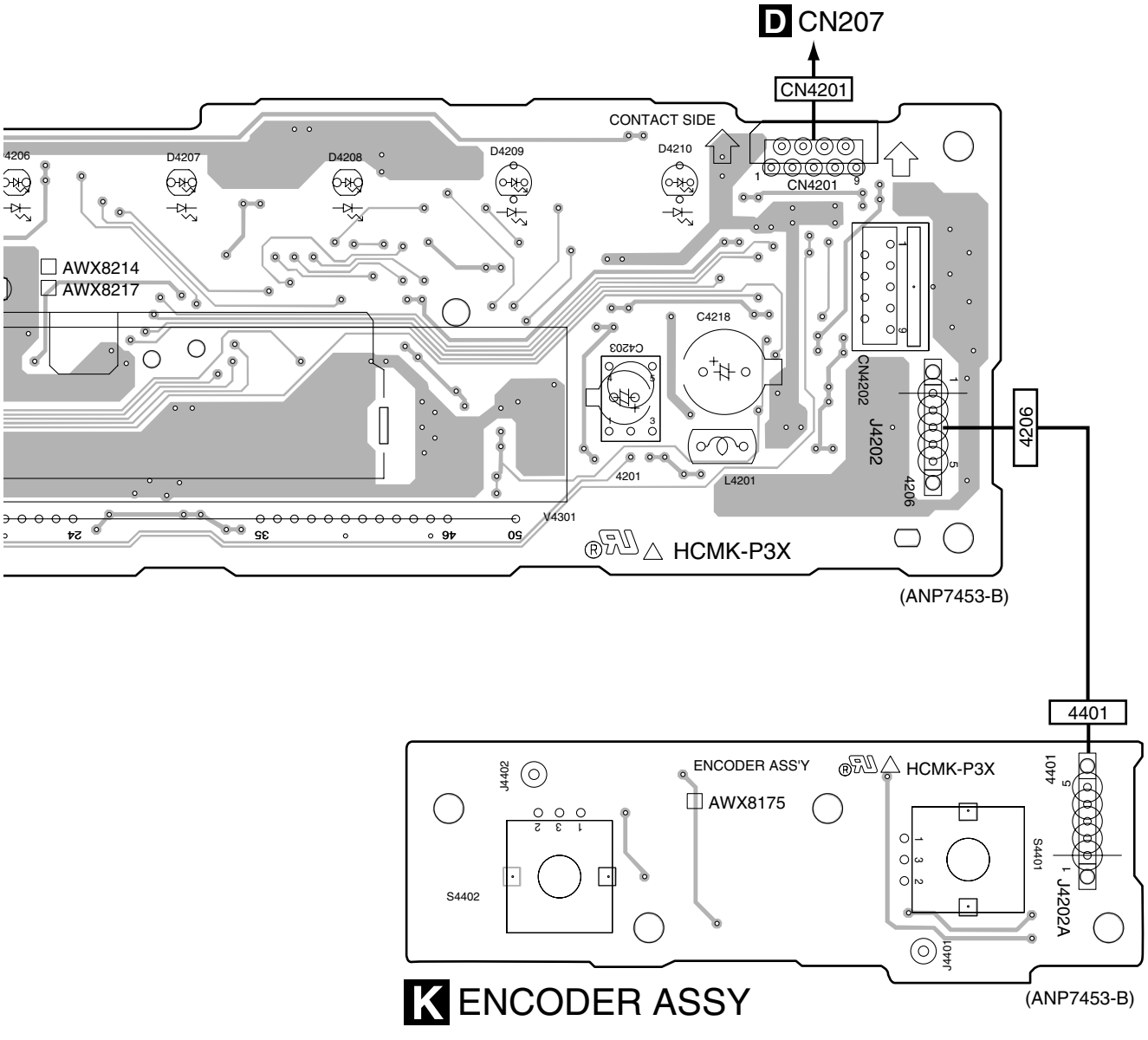
4.10 ENCODER, FRONT and POWER SW ASSYS

SIDE A



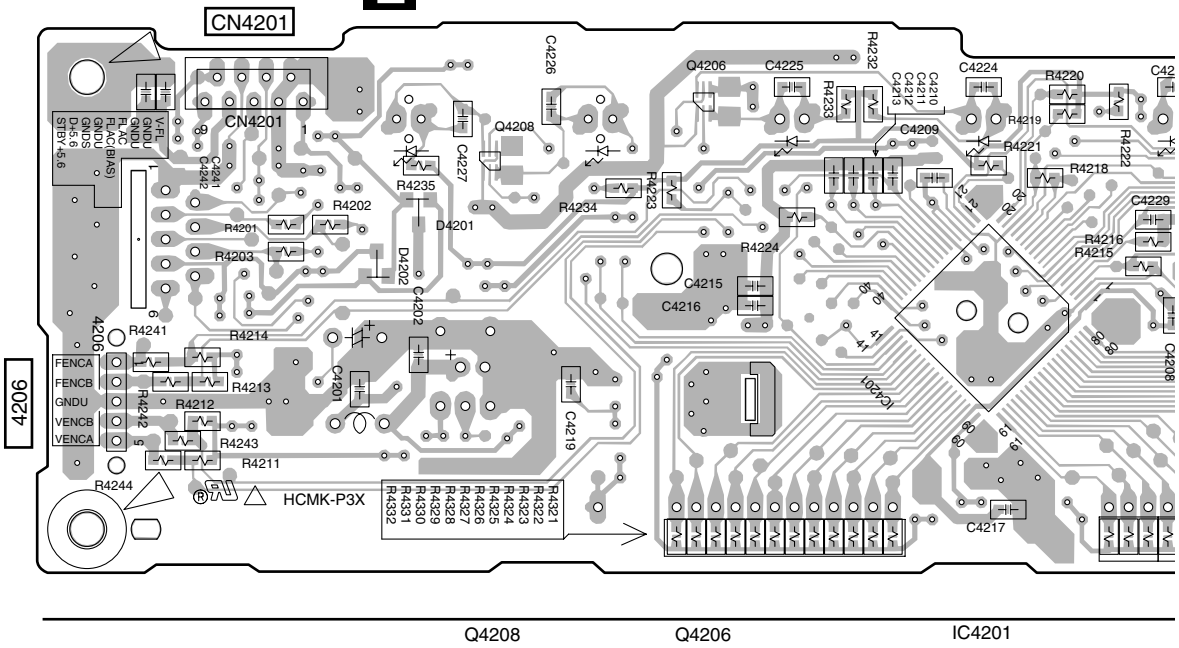
L **M**

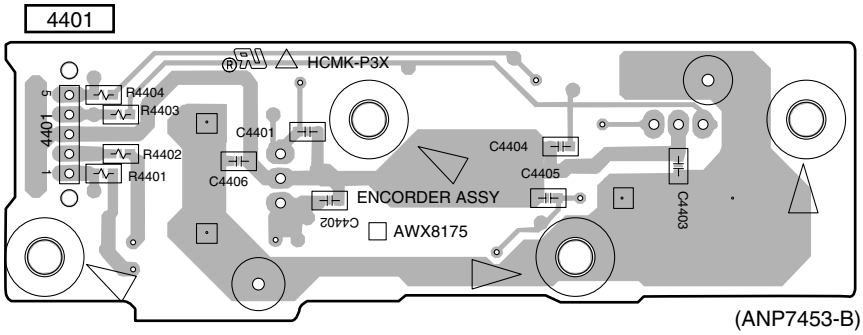
SIDE A


D CN207
CN4201
CONTACT SIDE
D4206
D4207
D4208
D4209
D4210
CN4201
AWX8214
AWX8217
C4218
C4203
CN4202
J4202
4206
4201
L4201
V4301
HCMK-P3X
(ANP7453-B)
4401
ENCODER ASS'Y
AWX8175
HCMK-P3X
J4402
S4402
S4401
J4202A
J4401
(ANP7453-B)
K ENCODER ASSY

SIDE B

L FRONT ASSY

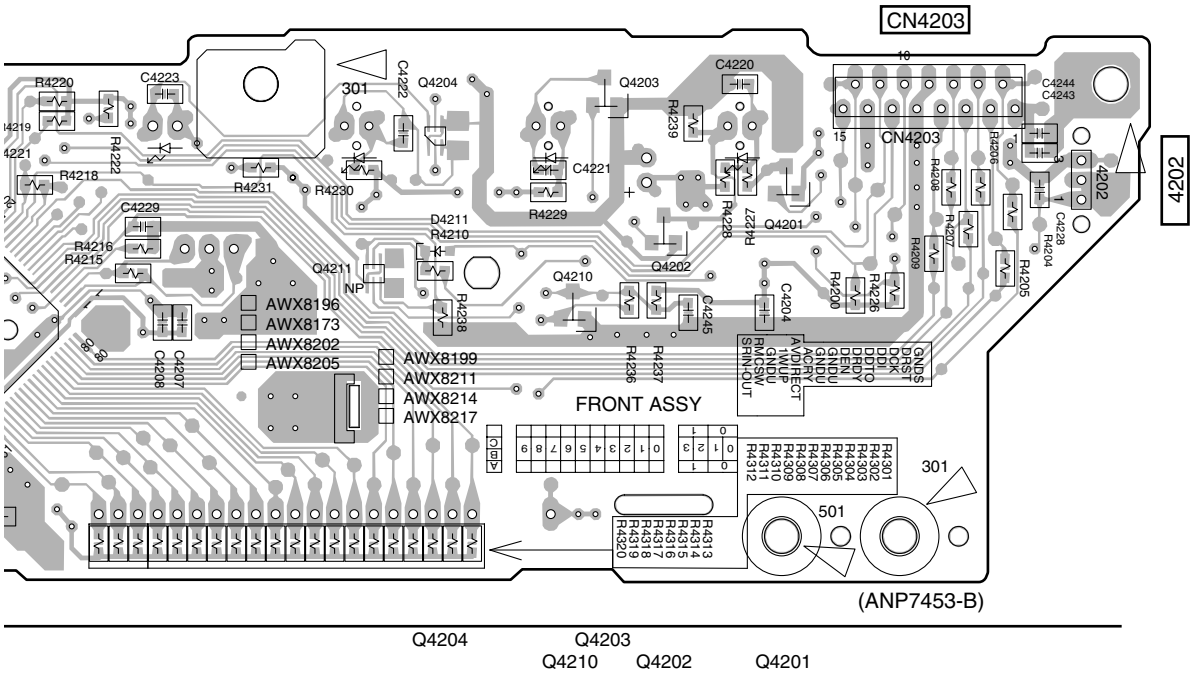




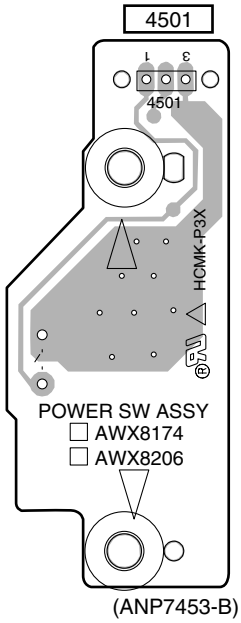
(ANP7453-B)

K ENCODER ASSY

SIDE B

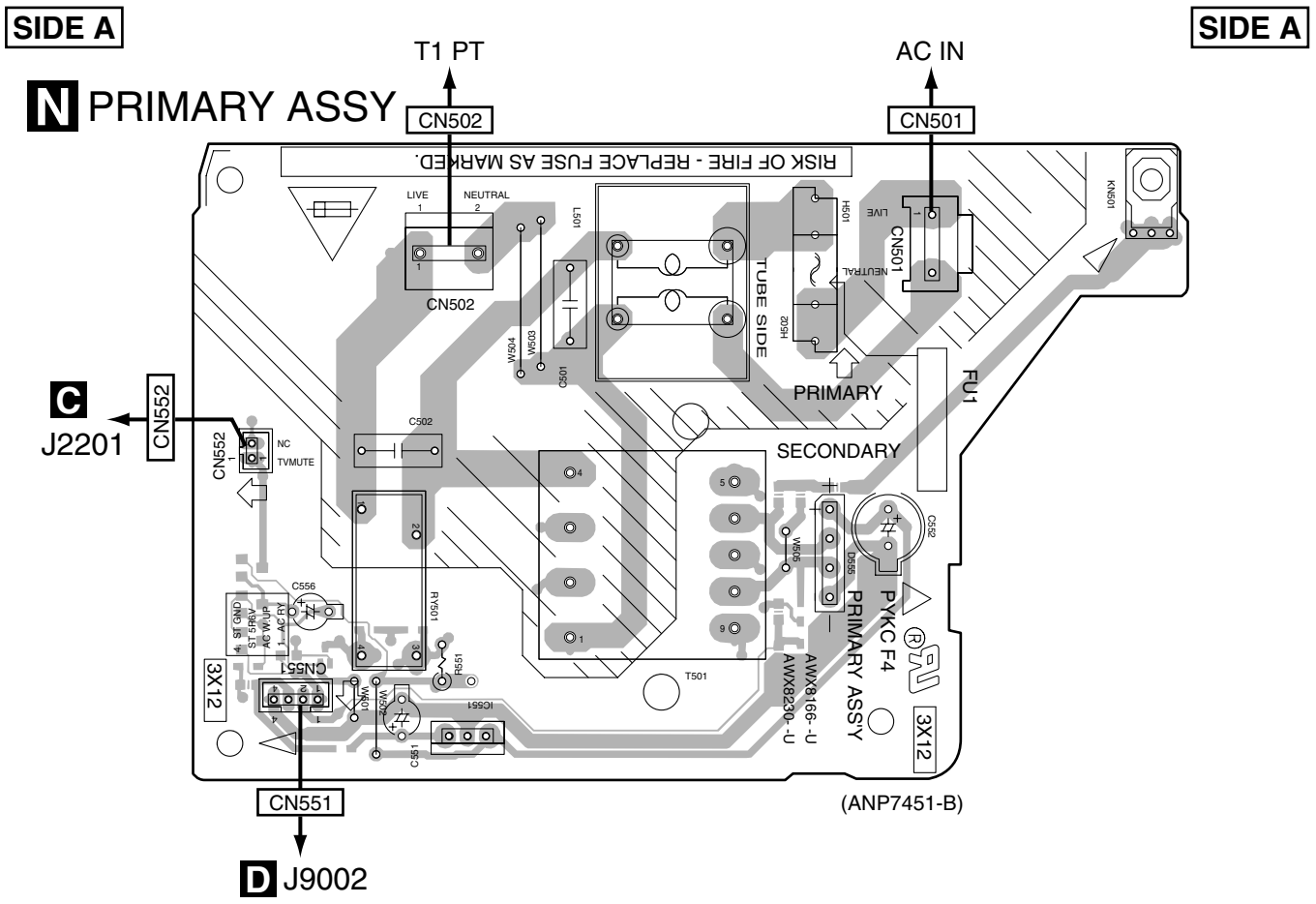


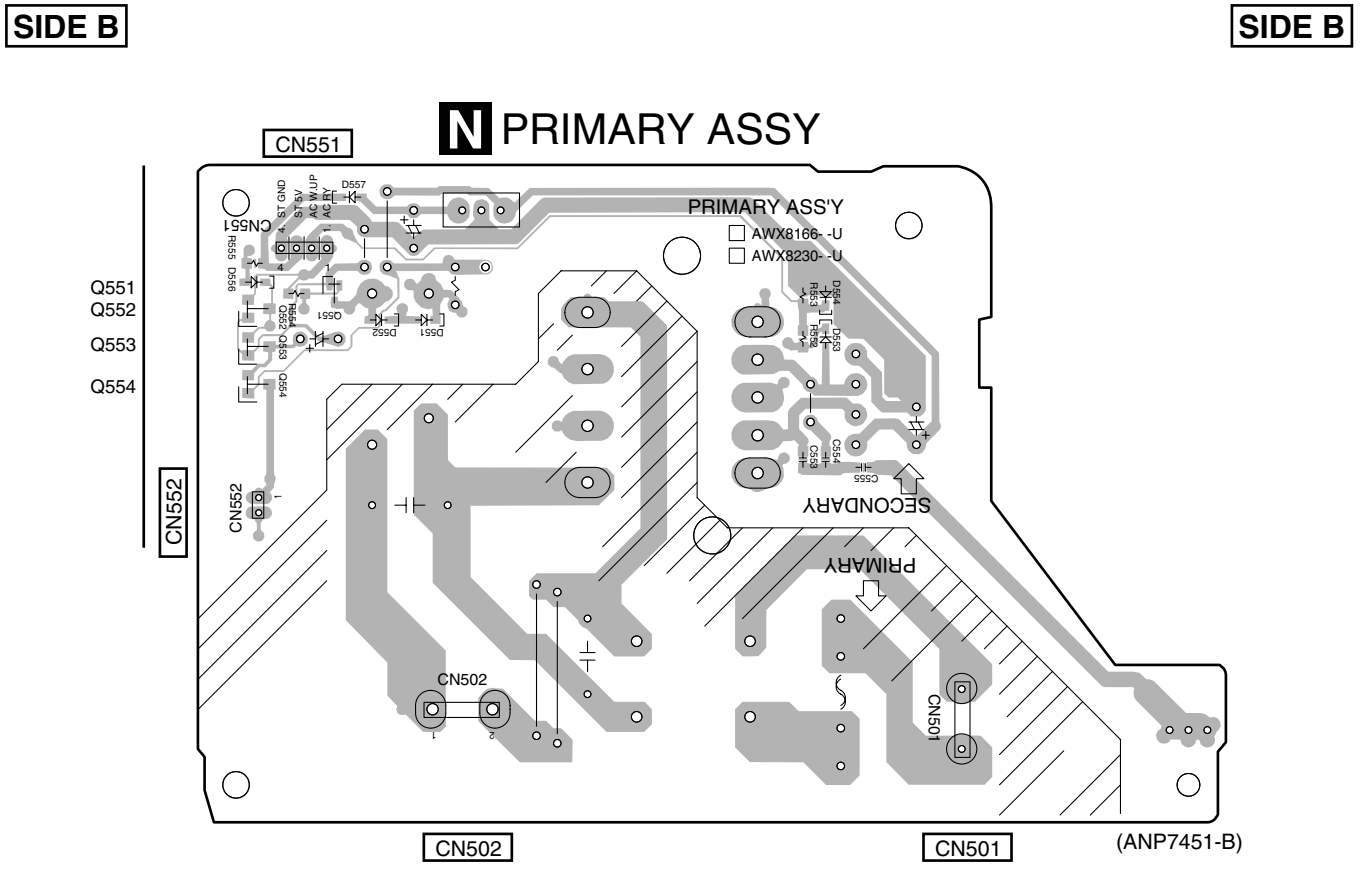
Q4204 Q4203
Q4210 Q4202 Q4201



M POWER SW ASSY

4.11 PRIMARY ASSY



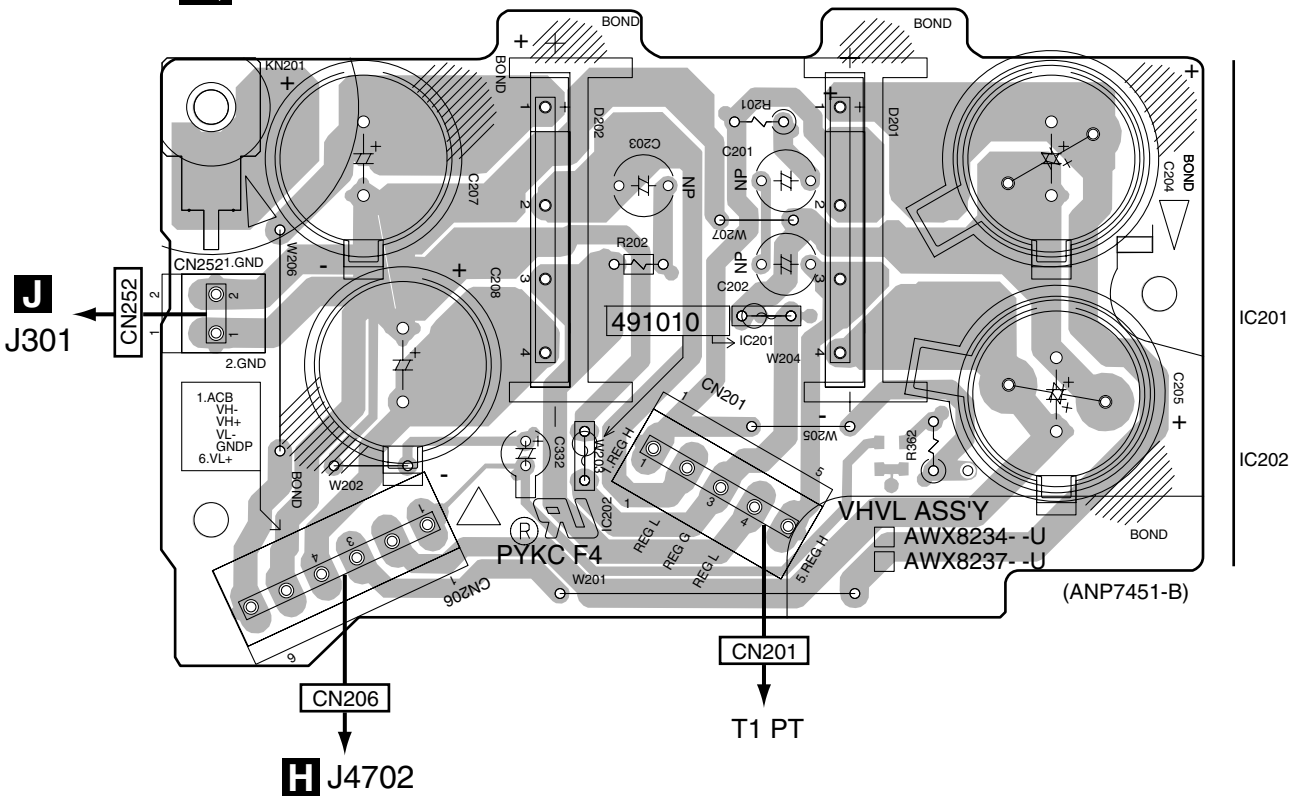


4.12 VHVL ASSY

SIDE A

SIDE A

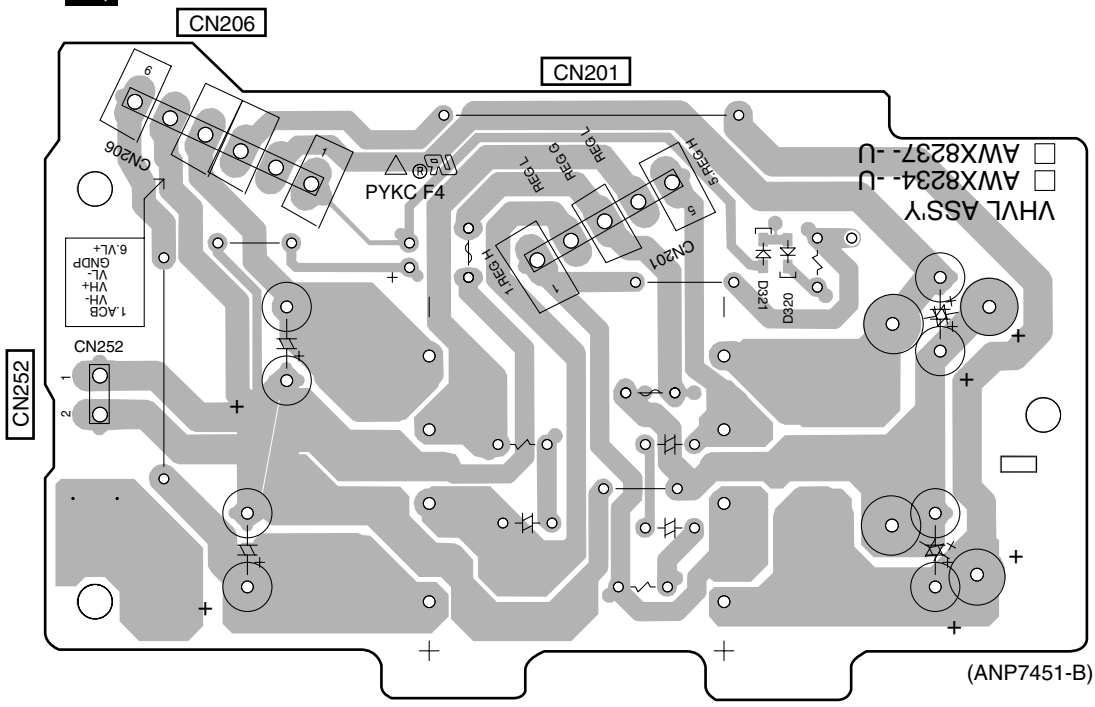
Q VHVL ASSY



SIDE B

SIDE B

Q VHVL ASSY



Q **Q**

5. PCB PARTS LIST

NOTES: ● *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
● *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
● *When ordering resistors, first convert resistance values into code form as shown in the following examples.*
Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560 Ω	→ *56 x 10[1]* →	*561*	*RD1/4PU 5 6 1 J*
47k Ω	→ *47 x 10[3]* →	*473*	*RD1/4PU 4 7 3 J*
0.5 Ω	→ *R50*		*RN2H R 5 0 K*
1 Ω	→ *1R0*		*RS1P 1 R 0 K*

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω	→ *562 x 10[1]* →	*5621*	*RN1/4PC 5 6 2 1 F*

Mark	No.	Description	Part No.

LIST OF ASSEMBLIES

	LIST OF ASSEMBLIES		
NSP	1	..SCART ASSY	AWM7761
	2	..AMP OUT ASSY	AWX8164
	2	..PRIMARY ASSY	AWX8166
	2	..SCART-1F ASSY	AWX8168
	2	..SCART-2F ASSY	AWX8169
	2	..12V ASSY	AWX8170
	2	..AMP KAWA ASSY	AWX8223
	2	..D5V ASSY	AWX8224
	2	..VHVL ASSY	AWX8237
NSP	1	..MOTHER ASSY	AWM7762
	2	..DSP KAWA ASSY	AWX8167
	2	..MOTHER ASSY	AWX8171
NSP	1	..FRONT ASSY	AWM7782
	2	..FRONT ASSY	AWX8173
	2	..POWER SW ASSY	AWX8174
	2	..ENCODER ASSY	AWX8175
	2	..FRONT-IN ASSY	AWX8219
NSP	1	..AMP MODULE 6CH	AXQ7247
	2	..6CH AMP ASSY	AWM7786
	1	..FM/AM TUNER MODULE	AXQ7246
	1	..DSP ASSY	AWX8241

Mark	No.	Description	Part No.

A FM/AM TUNER MODULE

SEMICONDUCTORS

	IC201	BA1451F
	IC202	LC72131MD
	Q201,Q204,Q205,Q601	2SC2412K
	Q202	DTA124ES
	Q203,Q602	DTC124EK
	D201	1SS133
	D601	HVU187
	D202	MTZJ5.1C
	D101	UDZS6.8B

COILS AND FILTERS

	L201	ATE7003
	F202	ATF-107
	F201	ATF-119
	F601	ATF7025
	F203	ATF7026
	L602	LAU2R2J
	L601	LCTA270J2520

CAPACITORS

	C605	CCSQCH680J50
	C212,C213,C226,C233-C235	CCSRCH101J50
	C240,C614	CCSRCH101J50
	C206	CCSRCH120J50
	C231,C232	CCSRCH150J50
	C223	CEAT100M50
	C229	CEAT101M10
	C224	CEAT1R0M50
	C227	CEAT220M25
	C241	CEAT2R2M50
	C243	CEAT330M16
	C228	CEAT3R3M50
	C237	CEAT470M10
	C211	CEJQ1R0M50
	C210	CEJQ470M16
	C103,C104,C204,C238,C609	CKSRYB102K50
	C102,C208,C216,C217,C220	CKSRYB103K50
	C239,C242,C604,C610,C615	CKSRYB103K50
	C225	CKSRYB153K50
	C607,C608	CKSRYB182K50
	C201,C205,C214,C230,C236	CKSRYB223K50
	C244,C611	CKSRYB223K50
	C221	CKSRYB224K10
	C603	CKSRYB392K50
	C215	CKSRYB471K50
	C202,C222	CKSRYB473K16
	C606	CKSRYB561K50

RESISTORS

	R211	RD1/4PU221J
	R221	RD1/4PU222J
	R233	RD1/4PU391J
	R103,R104	RS1/10S221J
	Other Resistors	RS1/16S###J

OTHERS

	CN201 13P FFC CONNECTOR	52044-1345
	BN201 2P TERMINAL WITH PAL	AKA7002
	0 SHIELD CASE T(MTL)	ANK7072
	0 SHIELD CASE B(MTL)	ANK7073
	X201 CRYSTAL RESONATOR (7.2MHz)	ASS1093
	FM FRONT END	AXF7005
	AM RF TUNING BLOCK	AXX7072

Mark	No.	Description	Part No.

B SCART-1F ASSY

SEMICONDUCTORS

	IC2101	TC7WU04F
	IC2106	UPC4570G2
⚠	IC2102,IC2103 PROTECTOR(2.5A)	AEK7014
	IC2104	NJU7312AM
⚠	D2113,D2117,D2118,D2120	1SR154-400
	D2127	DAN217
	D2105,D2110	UDZS13B
	D2102,D2104,D2107,D2109	UDZS5.1B
	D2122,D2123,D2125,D2126	UDZS5.1B
	D2131-D2138	UDZS5.1B
	D2103,D2108	UDZS6.2B

COILS AND FILTERS

	F2102,F2103	DTF1070
	L2101	QTL1013

CAPACITORS

	C2170 (1/100V)	ACH1237
	C2125-C2127,C2133,C2134	CCSRCH101J50
	C2111,C2112,C2117,C2118	CCSRCH331J50
	C2110	CCSRCH470J50
	C2104	CCSRCH471J50
	C2160,C2161	CEAT100M50
	C2168,C2169	CEAT222M25
	C2113-C2116,C2119-C2122	CEAT470M25
	C2138,C2139	CEAT470M25
	C2130,C2131	CEAT4R7M50
	C2105,C2106,C2109,C2123,C2124	CKSRYB103K50
	C2136,C2137	CKSRYB103K50
	C2101,C2102,C2107	CKSRYB104K16
	C2175-C2178	CKSRYB104K25
	C2108	CKSRYB105K10

RESISTORS

	R2147	RD1/4MUF4R7J
	Other Resistors	RS1/16S###J

OTHERS

	620 5P CABLE HOLDER	51048-0500
	CN2102 15P FFC CONNECTOR	52045-1545
	CN2103 23P FFC CONNECTOR	52045-2345
	CN2108 3P TOP POST	B3B-EH
	J620 JUMPER WIRE 5P	D20PYY0510E
	JA2101,JA2102 OPT. LINK IN	GP1FA513RZ
	JA2103 1P PINJACK	VKB1077
	JA2104,JA2105 RGB CONNECTOR	VKB1157
	CN2104,CN2106 19P CONNECTOR	VKN1775

C SCART-2F ASSY

SEMICONDUCTORS

	IC2201-IC2203	BA7613F
	IC2206	BU4052BCFV
	IC2205	NJM2296M
	IC2207	NJM4558MD
	Q2204	2SA1515
	Q2205	2SC4081
	Q2203	2SC5174P
	Q2201	DTA124EUA
	Q2202	DTC124EUA
	Q2207	HN1C03F
	Q2206	RN1903
	D2214,D2239	1SS355
	D2216,D2219-D2221,D2240	DAN202K
	D2204,D2211	UDZS13B
	D2203,D2210,D2224,D2225	UDZS5.1B
	D2228,D2229,D2233,D2234	UDZS5.1B
	D2237,D2238,D2241-D2250	UDZS5.1B
	D2206,D2213,D2222,D2223,D2251	UDZS6.2B

CAPACITORS

	C2203,C2204,C2214,C2215	CCSRCH101J50
	C2210,C2218-C2221,C2223,C2230	CCSRCH221J50
	C2201,C2202,C2205,C2206	CCSRCH331J50
	C2216,C2217,C2255,C2257	CCSRCH331J50
	C2208,C2209,C2211,C2243,C2244	CEAT470M25
	C2238	CEJQ101M10
	C2239	CEJQ470M10
	C2224,C2237,C2242,C2259-C2262	CKSRYB104K25
	C2264,C2265	CKSRYB104K25
	C2240,C2241	CKSRYB105K10
	C2226-C2228,C2231,C2233	CKSRYF105Z10

RESISTORS

	R2235	RS2LMF181J
	R2229	RS3LMF220J
	Other Resistors	RS1/16S###J

OTHERS

	CN2202 23P FFC CONNECTOR	52044-2345
	CN2201 15P FFC CONNECTOR	52045-1545
	CN2204 19P FFC CONNECTOR	52045-1945
	JA2201,JA2202 RGB CONNECTOR	AKB7157
	JA2203 MINI JACK	AKN7037
	JA2204 JACK	RKN1026

D MOTHER ASSY

SEMICONDUCTORS

⚠	IC206 PROTECTOR(630mA)	AEK7006
⚠	IC203 PROTECTOR(4A)	AEK7018
	IC1221	BD3814FV
	IC4651	BU1924F
	IC1261	NJM2100M
	IC1101-IC1103,IC1105	NJM4558MD
	IC210	NJM78L05A
	IC1271	NJM78M05FA
	IC205	NJM78M56FA
	IC9001	PD5863A
	IC1501-IC1503	UPC4570G2
	Q4651	2SA1037K
	Q801,Q9005-Q9007	2SC2412K
	Q1261,Q1262,Q1301,Q1503,Q1504	2SC3326
	Q1507,Q1508,Q1511,Q4653	2SC3326
	Q1103,Q1104	2SK208
	Q1101,Q1263,Q1266,Q9004	DTA124EK
	Q9008-Q9010	DTA124EK
	Q1102,Q1265	DTC124EK
	Q1264,Q4652,Q9001	DTC143EK
	Q9011	DTC143TK
⚠	D204	1SR154-400

Mark No.	Description	Part No.
D1101,D1102,D1253,D1254,D801		1SS355
D9001-D9004,D9010,D9012,D9017		1SS355
D9020-D9024,D9026-D9029		1SS355
D203		D3SBA20
D1301		DAN217
D9018		DAP202K
D210		RB501V-40
D207		UDZS20B
D1251,D1252,D209		UDZS6.8B

COILS AND FILTERS

L9001,L9002	ATL7002
F1271,F201,F202	DTF1070
L4651,L9003	LFEA2R2J
L801	QTL1013

CAPACITORS

C9003 (0.22F/5.5V)	ACH7144
C1123,C1124,C1143,C1248,C1249	CCSRCH101J50
C1261,C1262	CCSRCH101J50
C1501,C1502,C1521,C1522,C1541	CCSRCH221J50
C4656,C4657	CCSRCH270J50
C1542	CCSRCH271J50
C1105-C1108,C1125-C1128,C1145	CCSRCH331J50
C1147	CCSRCH331J50
C1103,C1104	CCSRCH471J50
C4655	CCSRCH561J50
C1221-C1226,C1229-C1234	CEAT100M50
C4653,C9005	CEAT101M10
C1270,C807	CEAT101M16
C9007	CEAT102M6R3
C4651	CEAT1R0M50
C211	CEAT220M50
C214	CEAT221M25
C9002	CEAT221M6R3
C4652	CEAT2R2M50
C1253,C1254	CEAT331M10
C212	CEAT331M50
C209	CEAT332M16
C220	CEAT470M16
C213	CEAT471M35
C9013	CEAT471M6R3
C1263,C1264	CEAT4R7M50
C1265	CEJQ221M6R3
C1344,C1503,C1504,C1523,C1524	CEJQ4R7M50
C1543,C1544	CEJQ4R7M50
C1111,C1112,C1131,C1132	CKSQYF225Z16
C1151,C1152,C1505,C1506	CKSQYF225Z16
C1525,C1526,C1545,C1546	CKSQYF225Z16
C4658,C801,C9015,C9022,C9024	CKSRYB102K50
C1146,C1185,C1186,C1199	CKSRYB103K50
C1227,C1228,C1251,C1252,C1269	CKSRYB103K50
C802,C804,C9001,C9004,C9008	CKSRYB103K50
C9021	CKSRYB103K50
C1266	CKSRYB104K16
C1187,C1188,C1237-C1240,C1271	CKSRYB104K25
C215,C216	CKSRYB104K25
C1272,C803,C805,C9006	CKSRYB105K10
C1144	CKSRYB223K50
C1198	CKSRYB471K50
C1133,C1134,C1153,C1154	CKSRYB472K50
C1235,C1236,C4661	CKSRYB472K50
C210,C217	CKSRYB473K50
C1148	CKSRYB562K50
C1402,C1403	CKSRYF224Z25
C1565	CKSRYF474Z16

RESISTORS

R9001,R9091	RS1/10S101J
R1251,R1252	RS1LMF101J
R203	RS1LMF102J
Other Resistors	RS1/16S###J

OTHERS

X4651 CRYSTAL RESONATOR (4.332 MHz)	ASS7004
X9001 CERAMIC RESONATOR (15.7 MHz)	ASS7032
CN1262,CN1263 19P CONNECTOR	19R-1.25FJ
CN207 9P FFC CONNECTOR	52045-0945
CN801 13P FFC CONNECTOR	52045-1345
CN9006 15P FFC CONNECTOR	52045-1545
CN1501,CN9010 17P FFC CONNECTOR	52045-1745
CN1204,CN9001,CN9005 19P FFC CONNECTOR	52045-1945
CN1265 23P PLUG	AKP7064
CN203 3P CONNECTOR POST	B3B-PH-K
CN202 6P CONNECTOR	B6B-EH
J9002	PF04PG-D05
9001-9003 PCB BINDER	VEF1040
CN1264 10P FFC CONNECTOR	VKN1241
KN1201 WRAPPING TERMINAL	VNF1084

E DSP KAWA ASSY

CAPACITORS

C1802	CCSRCH101J50
C1267,C1268	CEAT100M50
C1101,C1102,C1121,C1122	CEAT2R2M50
C1141,C1142,C1161	CEAT2R2M50
C1801	CEAT331M16

RESISTORS

All Resistors	RS1/16S###J

OTHERS

CN1811 13P PLUG	AKP7059
CN1813 15P PLUG	AKP7060
CN1801 23P SOCKET	AKP7075

F DSP ASSY

SEMICONDUCTORS

IC8201	AK4114VQ
IC8401	AK4529VQ
IC8501	DSPD56367PV150
IC8901	NJM2391DL1-33
IC8902	NJU7223DL1-18
IC8701	TC74LVX244FT
IC8702	TC74VHCT244AFT
IC8502	TC7WU04FU
Q8504	UMD2N
Q8503	UN5112

Mark No.	Description	Part No.
	D8501	1SS355
	D8401	DAN202K
	D8402,D8502,D8503	DAP202K
	COILS AND FILTERS	
	L8002,L8004,L8501,L8502	ATL7002
	L8201,L8203,L8204,L8401,L8402	QTL1013
	L8504,L8701,L8702	QTL1013
	CAPACITORS	
	C8209,C8210	CCSRCH100D50
	C8421	CCSRCH101J50
	C8007,C8008,C8201,C8212,C8214	CCSRCH471J50
	C8404,C8409-C8414,C8416,C8417	CCSRCH471J50
	C8419,C8505,C8507,C8509	CCSRCH471J50
	C8511,C8512,C8515,C8518,C8520	CCSRCH471J50
	C8522,C8524,C8526,C8528,C8530	CCSRCH471J50
	C8532,C8534,C8536,C8539,C8541	CCSRCH471J50
	C8543,C8545,C8551,C8703,C8706	CCSRCH471J50
	C8548,C8549	CCSRCH8R0D50
	C8701,C8704	CEV100M16
	C8406,C8415,C8546,C8547,C8902	CEV101M16
	C8904	CEV101M16
	C8217,C8225,C8408	CEV470M6R3
	C8204,C8555	CKSRYB102K50
	C8009,C8405,C8418,C8517,C8554	CKSRYB103K50
	C8010,C8202,C8207,C8213,C8215	CKSRYB104K16
	C8407,C8420,C8422,C8504,C8513	CKSRYB104K16
	C8521,C8523,C8525,C8527,C8529	CKSRYB104K16
	C8531,C8533,C8535,C8537,C8538	CKSRYB104K16
	C8540,C8542,C8544,C8550,C8702	CKSRYB104K16
	C8705,C8901,C8903	CKSRYB104K16
	C8516	CKSRYB105K6R3
	C8514	CKSRYB333K16
	C8203	CKSRYB473K50
	RESISTORS	
	R8506	RAB4C101J
	R8201	RS1/16S1802F
	Other Resistors	RS1/16S###J
	OTHERS	
	X8501 CRYSTAL RESONATOR (20MHz)	VSS1171
	X8201 CRYSTAL RESONATOR (24.576MHz)	XSS3003
	CN8012 19P FFC CONNECTOR	52045-1945
	CN8003 13P SOCKET	AKP7070
	CN8009 15P SOCKET	AKP7071
	CN8017 10P FFC CONNECTOR	VKN1414

G FRONT-IN ASSY

Mark No.	Description	Part No.
	CAPACITORS	
	C4103,C4104	CCSRCH101J50
	C4107,C4111,C4122	CCSRCH471J50
	C4108	CEAL470M16
	C4105,C4109,C4117,C4124	CKSRYB103K50
	C4102,C4106,C4110,C4123	CKSRYB104K25
	C4112,C4113	CKSRYB223K50
	C4120,C4121	CKSRYF105Z10
	RESISTORS	
	All Resistors	RS1/16S###J
	OTHERS	
	CN4102 19P FFC CONNECTOR	52045-1945
	JA4101 PIN JACK(3P)GOLD	AKB7098
	JA4102 OPT. LINK IN	GP1FA513RZ
	JA4103 HEADPHONE JACK	RKN1006
	KN4101 WRAPPING TERMINAL	VNF1084
	J4601 BOARD IN LEAD WIRE	ADX7442

H AMP KAWA ASSY

Mark No.	Description	Part No.
	SEMICONDUCTORS	
⚠	IC4701 PROTECTOR(7A)	AEK7021
	OTHERS	
	CN4701 17P FFC CONNECTOR	52045-1745
	J4702 LEAD WITH HOUSING	ADX7424
	CN4703 19P SOCKET	AKP7073
	CN4705,CN4706 23P SOCKET	AKP7178
	4701,4702 PCB BINDER	VEF1040

I 6CH AMP ASSY

Mark No.	Description	Part No.
	SEMICONDUCTORS	
⚠	IC71	NJM7912FA
⚠	IC3301,IC3401	STK402-270
	Q3382	2SA1576A
	Q62	2SB1237X
	Q111,Q3381,Q63	2SC4081
⚠	Q61	2SD2012
	Q3301,Q3302,Q3401,Q3402	2SD2114K
	Q3501,Q3502,Q3504	2SD2114K
	Q3654	2SD2144S
	Q3653	DTA124EUA
	Q3652	DTA124TK
⚠	Q3383	IRFI9Z34G
⚠	Q3384	IRFIZ34G
	Q3651	RN1901
	Q101,Q103	UMB1N
	Q102,Q104	UMH1N
⚠	D3321-D3326	1SR139-400
	D3327,D3328	1SR139-400
⚠	D3421-D3426	1SR139-400
	D3427,D3428	1SR139-400
	D3387,D3388,D3651-D3655	1SS133
	D101,D102,D3657,D42	1SS355
⚠	D3391,D3392	30PDA20-FC6
⚠	D3381,D3382,D3481,D3482	DAN217
⚠	D3581,D3582	DAN217
	D3389,D3390	MTZJ10C
⚠	D72	MTZJ15C
	D3393,D3394	MTZJ18B/C
⚠	D63	MTZJ18C
	D3385,D3386	MTZJ36A
	D105,D106,D3658	UDZS7.5B
	TH111	NCP18WF104J03RB
	CAPACITORS	
	C3305,C3306,C3405,C3406	CCSRCH221J50

Mark	No.	Description	Part No.
	C3505,C3506,C62		CCSRCH221J50
	C3309,C3310,C3409,C3410		CCSRCJ3R0C50
	C3509,C3510		CCSRCJ3R0C50
	C3307,C3308,C3407,C3408,C3508		CEAL100M16
	C3507		CEAL470M6R3
	C72		CEAT100M50
	C3651		CEAT101M25
	C101,C102		CEAT1R0M50
	C3323,C3324,C3423,C3424		CEAT221M50
	C3167,C3168,C3178,C3179		CEAT2R2M50
	C3301,C3302,C3317,C3318		CEAT2R2M50
	C3401,C3402,C3501,C3502		CEAT2R2M50
	C3652,C63		CEAT470M25
	C3653		CEAT470M35
	C3321,C3322,C3421,C3422		CEATR22M50
	C3303,C3304,C3403,C3404		CKSRYB102K50
	C3503,C3504		CKSRYB102K50
	C71		CKSRYB473K50

RESISTORS

	R3317-R3320,R3417-R3420(0.22/2W)	ACN7122
	R3517-R3520 (0.22/2W)	ACN7122
⚠	R3327,R3328,R3427,R3428	RD1/4MUF470J
	R3387,R3388	RD1/4PU101J
	R3657	RD1/4PU330J
⚠	R3323,R3324,R3351,R3423,R3424	RS1/16S1R0J
⚠	R3451	RS1/16S1R0J
	R67,R68	RS1/16S2201F
⚠	R62	RS1/16S330J
	R65	RS1/16S4700F
	Other Resistors	RS1/16S###J

OTHERS

	CN3001,CN3002 23P PLUG	AKP7064
	CN3651 PLUG(2P)	KM200SA2

J AMP OUT ASSY

SEMICONDUCTORS

	Q320,Q321	2SA1037K
	Q303	2SC2712
	Q301,Q302,Q305,Q308-Q310	2SC4081
	Q312,Q318,Q319	2SC4081
	Q307	2SD1858X
	Q313	DTA124EUA
	Q306	DTA143EUA
	Q311,Q317	DTC124EUA
	Q316	DTC143EUA
	Q314	RN2903
	D301,D302,D304-D307,D309	1SS355
	D311-D314,D316,D317	1SS355
	D322-D327	1SS355
	D319	DAN202K
	D303,D310,D315	DAP202K
	D318	UDZS5.1B

COILS AND FILTERS

	L301,L302,L304-L306	ATH-059

SWITCHES AND RELAYS

	RY301-RY304	ASR7008

Mark	No.	Description	Part No.

CAPACITORS

	C336	CCSRCH221J50
	C335	CCSRCH331J50
	C334	CEAT100M50
	C333	CEAT471M6R3
	C301-C304,C316,C318	CKSQYB104K50
	C325-C328	CKSQYB104K50
	C329,C331	CKSRYB102K50
	C337	CKSRYB104K25
	C319-C323	XCG3008

RESISTORS

	R303,R304,R324,R345,R346 (0.1, 2W)	ACN7120
	R309,R310,R330,R351,R352	RD1/2LMF101J
	R358	RD1/2VM103J
⚠	R311,R312,R317-R320,R332	RS1/10S150J
⚠	R336-R341,R353,R354	RS1/10S150J
	R313,R314	RS1/10S222J
	R315,R316	RS1LMF331J
	Other Resistors	RS1/16S###J

OTHERS

	CN301 17P FFC CONNECTOR	52045-1745
	J301 2P CONNECTOR ASSY	ADX7425
	JA301 PIN JACK(1P)	AKB7080
	401 SPEAKER TERMINAL10-P	AKE7093
	CN203 19P PLUG	AKP7062

K ENCODER ASSY

SWITCHES AND RELAYS

	S4402	ASX7041
	S4401	ASX7043

RESISTORS

	All Resistors	RS1/16S###J

OTHERS

	4401 5P CABLE HOLDER	51048-0500

L FRONT ASSY

SEMICONDUCTORS

	IC4201	PE5368A
	Q4202,Q4203,Q4210	DTC124EK
	Q4204,Q4206,Q4208	RN1903
	Q4211	RN2903
	D4211	1SS355
	D4201,D4202	DAN202K
	D4207	SLR-343MC
	D4204,D4205,D4208,D4209	SLR-343VC
	D4203,D4206,D4210	SLR-343YC

COILS AND FILTERS

	L4201	LFEA2R2J

CAPACITORS

	C4203	CEJQ221M6R3
	C4205	CEJQ470M10
	C4210-C4213,C4228	CKSRYB102K50
	C4201,C4202,C4204,C4215-C4217	CKSRYB103K50
	C4208,C4245	CKSRYB104K25
	C4220-C4227	CKSRYB473K50

Mark	No.	Description	Part No.
		RESISTORS	
		All Resistors	RS1/16S###J
		OTHERS	
	4202	3P CABLE HOLDER	51048-0300
	4206	5P CABLE HOLDER	51048-0500
	CN4201	9P FFC CONNECTOR	52045-0945
	CN4203	15P FFC CONNECTOR	52045-1545
	V4301	FL TUBE	AAV7093
	J4201	JUMPER WIRE 3P	D20PYY0310E
	J4202	JUMPER WIRE 5P	D20PYY0515E
	4201	REMOTE RECEIVER UNIT	SPS-442-E1
	4301	FL HOLDER	VNF1122
	X4201	CERAMIC RESONATOR(5MHz)	VSS1142
		M POWER SW ASSY	
		SWITCHES AND RELAYS	
	S4501		VSG1009
		OTHERS	
	4501	3P CABLE HOLDER	51048-0300
		N PRIMARY ASSY	
		SEMICONDUCTORS	
⚠	IC551		NJM78M56FA
	Q551		2SC4081
	Q554		DTA124EK
	Q552,Q553		DTC124EK
	D551-D553,D556,D557		1SS355
⚠	D555		S1VB20/F03
	D554		UDZS5.1B
		COILS AND FILTERS	
⚠	L501		ATF7018
		TRANSFORMERS	
⚠	T501		ATT7078
		SWITCHES AND RELAYS	
⚠	RY501		ASR7013
		CAPACITORS	
⚠	C501		ACE7013
⚠	C502 (10000P/AC250V)		ACG7033
	C556		CEAT100M50
	C552		CEAT102M25
	C551		CEAT470M25
	C553-C555		CKSRYB103K50
		RESISTORS	
	R551		RD1/2VM270J
	Other Resistors		RS1/16S###J
		OTHERS	
	H501,H502	FUSE CLIP	AKR7001
	CN552	2P CONNECTOR POST	B2B-PH-K
	CN502	2P-VH CONNECTOR	B2P3-VH
	CN551	4P CONNECTOR	B4B-PH-K
⚠	CN501	AC CORD SOCKET	RKP1751
	KN501	WRAPPING TERMINAL	VNF1084

Mark	No.	Description	Part No.
		O D5V ASSY	
		SEMICONDUCTORS	
	IC6001		NJM7805FA
		CAPACITORS	
	C6001		CEHAT331M16
	C6002		CKSRYB473K50
		OTHERS	
	J6001	CONNECTOR ASSY	PF03PG-D10
		P 12V ASSY	
		SEMICONDUCTORS	
	IC601		BA12T
	IC602		NJM7912FA
	D601,D602		RB501V-40
		CAPACITORS	
	C603,C604		CEHAT221M25
	C601,C602		CKSRYB473K50
		OTHERS	
	601	5P CABLE HOLDER	51048-0500
		Q VHVL ASSY	
		SEMICONDUCTORS	
	D320,D321		1SS355
⚠	D201,D202		D5SBA20
		CAPACITORS	
	C203		ACH1237
	C207,C208		ACH7161
	C204,C205		CEAT222M50
	C332		CEAT2R2M50
		RESISTORS	
	R362		RD1/2VM332J
	R202		RD1/4MUF100J
		OTHERS	
	CN252	2P-VH CONNECTOR	B2P-VH
	CN201	5P-VH CONNECTOR	B5P-VH
	CN206	6P-VH CONNECTOR	B6P-VH

6. ADJUSTMENT
6.1 TUNER SECTION

■ AM Tuner Section
• There is no adjustment in the AM tuner.

■ FM Tuner Section
• Set the mode selector to FM BAND.
• Connect the wiring as shown in Fig. 1.

Step No.	Adjustment Title	ANT. Input level and signal condition			Adjustment	
		Frequency (MHz)	Modulation	Input Level (dBμV)	Adjust point	Contents
1	T-METER Adjustment	98	OFF	80	L201	Adjust L201 so that the DC voltage between Pin 21 and Pin 23 of IC201 (Test point Vtm) gets within 0 ± 50mV.

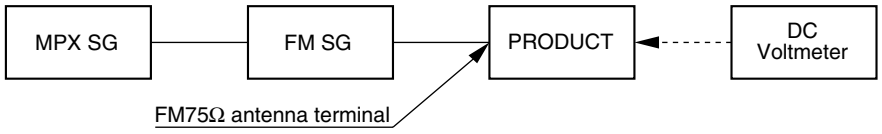


Fig.1 Adjustment Wiring Diagram

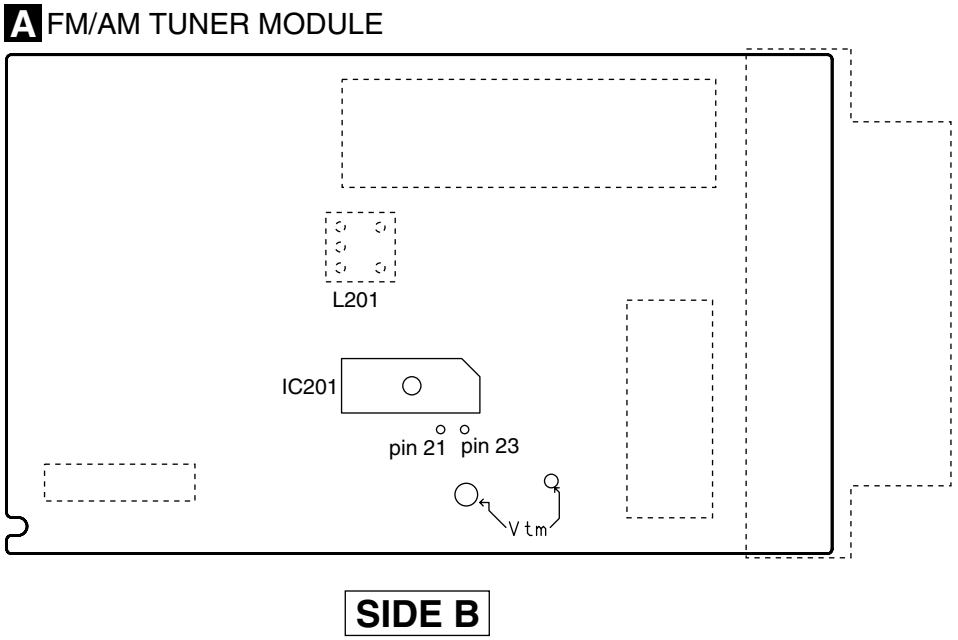


Fig.2 Adjustment Point

7. GENERAL INFORMATION

7.1 DIAGNOSIS

7.1.1 Test Mode

• How to Enter the Test Mode

With the attached Remote Control Unit

1. Test mode ON "MENU" key

When Test mode is entered, "TEST" is indicated for 5 seconds. Settings other than those described below return to the factory-preset values.

- Function: TV/SAT
- Signal select: AUTO
- Settings for the speakers: All large, SW ON
- No automatic speaker detection
- PRO LOGIC2 EMU mode
- The tuner is preset for Test mode.
- SOUND MODE: OFF

The Protection process (Key Mask for 1 min.) is canceled.

2. Test mode OFF "9" key

When the code is received, Test mode is terminated, and all settings return to the factory-preset values.

With "RECEIVER ⏻ " key, Test mode is also terminated, and all settings return to the factory-preset values.

3.FL/LED check "0" key

Each time the remote control code is received, the indications on the FL and LED change cyclically, as shown below.

All segments on the FL and LED light. → All segments on the FL and LED go off. → "ABCDEFGH" are displayed on the FL, and 1, 3, 5, 7 are displayed on the LED. → "IJKLMNOP" are displayed on the FL, and 2, 4, 6, 8 are displayed on the LED. → Usual display → . . . .

When the code is first received, all segments light.

4. SP relay change "1" key

Each time the remote control code is received, the SP relay is turned off then back on. When the code is first received, the SP relay is turned off.

5. DOLBY Pro Logic2 mode "2" key

When the code is received, settings other than those described below return to the factory-preset values.

- Function: DVD/LD
- Signal select: AUTO
- Distance of Rear speaker: 5 feet
- STANDARD PRO LOGIC2 EMU mode
- Speaker setting: LLLLY

7. MASTER VOL CHANGE "4" key

Each time the remote control code is received, the master volume is changed as follows: minus infinity → 0 dB → . . . .

Each trim becomes 0 dB.

When the code is first received, the master volume becomes minus infinity (MUTE.)

8. 9K/10K CHANGE "5" key

For the FL (international) model only, when the code is received, 9K and 10K can be switched.

When the code is first received, 10K is selected.

9. MIC check "6" key

- Function: TV/SAT
- Signal Select: Analog

When the code is received while the microphone input is being checked, the data for the Function, Listening mode, and Signal Select are returned to those immediately before Microphone Input Check mode was entered, then Microphone Input Check mode is terminated.

- If you wish to hear the sound picked up by the microphone from the speakers, set NJU7312AM to MIC.

10. Automatic detection of speakers "7" key

When the remote control code is received, detection of speakers starts automatically. The results (C_S_W_) will be displayed for 5 seconds. The symbol "O" means the speaker is connected, and "×" means the speaker is not connected.

C301: C×S× W×

11. Analog input check "8" key

When the remote control code is received, Forced Analog Input, and 2-channel STEREO mode are set for all functions.

- Settings for the speakers: All large, SW ON
- When Analog Input Check mode is entered, "SIG:ANA" is displayed for 5 seconds.

12. Digital input check "3" key

When the remote control code is received, Forced Digital Input, and 2-channel STEREO mode are set for all functions.

- Settings for the speakers: All large, SW ON
- When Digital Input Check mode is entered, "SIG:DIG" is displayed for 5 seconds.

13. Bidirectional UART check "STOP" key

TXD (Pin 31) is for output, and RXD (Pin 32) is for input. The unit checks if the input is "L" when the "L" signal is output, and if the output is "H" when the "H" signal is output. After the unit confirms the above, it displays the confirmation "UART OK" for 5 seconds.

14. Version display "1" key

When the code is received, the versions of the main microcomputer, display microcomputer, and DSP are displayed. After the versions of microcomputers are displayed for 5 seconds, DSP version is displayed for 5 seconds.

Examples:

"M011F001": Main microcomputer: Ver. 011, display microcomputer: Ver. 001

"PPP. 031": DSP: Ver. 031

Note : Test mode of No. 1-12 is Preset ID 150.
Test mode of No. 13, 14 is Preset ID 156.

7.1.2 Protection Circuit

● DC detection

Detection method	XPROTECT port (A/D)R397: 56 K-ohms Less than 0.6-0.8 Vdd
Detection start time	2.8 sec after
Process	Mute: On Speaker Relay: Off Shifting to STBY after 3 sec
Display	"AMP ERR" flashes for 3 sec
Recovery	Hold the STANDBY key pressed for 10 sec.
Remarks	The unit will recover if the duration of detection is 3 sec or less.

● Overload detection

Detection method	XPROTECT port (A/D)R363: 27 K-ohms 0.4-0.6 Vdd
Detection start time	2.8 sec after
Process	Mute: On Speaker Relay: Off Shifting to STBY after 3 sec
Display	"OVERLOAD" flashes for 3 sec
Recovery	Press the STANDBY key.
Remarks	

● Fan (temperature) and short-circuit of the power supply circuit

Detection method	XPROTECT port (A/D) 0.4 Vdd or less
Detection start time	1.0 sec after
Process	Mute: On Speaker Relay: Off Shifting to STBY
Display	No display
Recovery	Hold the STANDBY key pressed for 10 sec.
Remarks	

● Fan stop

Detection method	XPROTECT port (A/D) 0.4 Vdd or less
Detection start time	1.0 sec after
Process	Mute: On Speaker Relay: Off Shifting to STBY
Display	No display
Recovery	Hold the STANDBY key pressed for 10 sec.
Remarks	

7.1.3 Specifications of Speaker Detection

1. Purposes

Automatic detection of connected speakers and automatic selection of settings appropriate for the detected speakers allow you to easily play surround-sound without your making cumbersome speaker settings.

2. Speaker detection method

Automatic detection of connected speakers starts 1120 ms after the power is turned on.

• Detection of the center and surround speakers

The microcomputer sends a detection signal and reads the logic of the response signal to judge whether the speaker is connected or not. The response signal is read at A/D input, and a voltage of 3 V or more is judged as no speaker connected.

• Detection of the subwoofer

The logic of the signal from the phono jack with a switch is read by the microcomputer to judge whether a speaker is connected or not.

3. Speaker settings

According to the results of detection, speaker settings are made as shown below.

Rules: The setting for the front speakers depends on whether a subwoofer is connected or not. If a subwoofer is connected, the setting for the front speakers is "small." Settings for other speakers are "small" or "not connected" depending on the results of detection. Settings for the rear surround speakers are in effect only when surround speakers are connected.

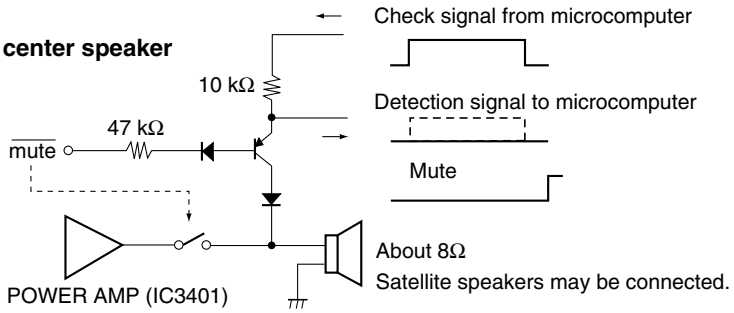
Results of the Detections			Speaker Setting			
Center SP	Surround SP	Sub-woofer	Front SP	Center SP	Surround SP	Sub-woofer
Connected	Connected	Connected	Small	Small	Small	ON
Connected	Connected	Not connected	Large	Small	Small	OFF
Connected	Not connected	Connected	Small	Small	Not connected	ON
Connected	Not connected	Not connected	Large	Small	Not connected	OFF
Not connected	Connected	Connected	Small	Not connected	Small	ON
Not connected	Connected	Not connected	Large	Not connected	Small	OFF
Not connected	Not connected	Connected	Small	Not connected	Not connected	ON
Not connected	Not connected	Not connected	Large	Not connected	Not connected	OFF

4 User's settings

More detailed speaker settings can be made in Setup mode. Once the user's settings are made in Setup mode, those settings have priority. However, if the configuration of connected speakers changes, then the detection results become valid and have priority over the user's settings until new user's settings are made.

5 Detection circuit for the center speaker

Detection of the center speaker

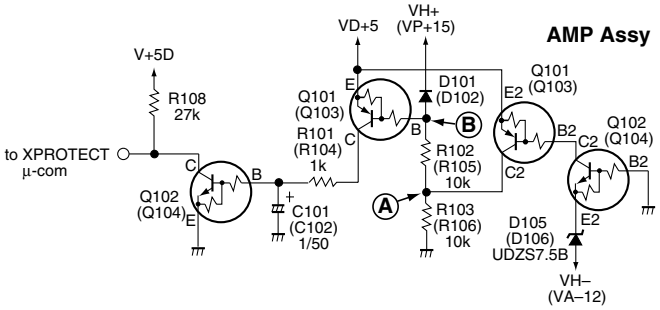


7.1.4 Circuit Description

* Refer to "3. 14 6CH AMP ASSY".

1 Short-circuit-detection circuit for the amplifier power circuit (+15 V[VP+15], VD+5, -12 V [VA-12])

Circuit for shutting the power off when VP+15, VD+5, or VA-12 is short-circuited to ground (GND)



- In Normal mode, as Q101 (Q103) (E2, B2, C2) and Q102 (Q104) (E2, B2, C2) are on, the voltage at Point Ⓐ is about 5 V. The voltage at Point Ⓑ is therefore about the same. As Q101 (Q103) (E, C, B) is off, Q102 (Q104) (E, C, B) is also off.

(1) When VH+(VP+15) is short-circuited to GND

As the voltage at Point Ⓑ becomes almost ground potential, and Q101 (Q103) (E, C, B) then Q102 (Q104) (E, C, B) are turned on, the level of XPROTECT becomes low.

→ The microcomputer detects the XPROTECT level and shuts the power to the unit off.

(2) When VH–(VA–12) is short-circuited

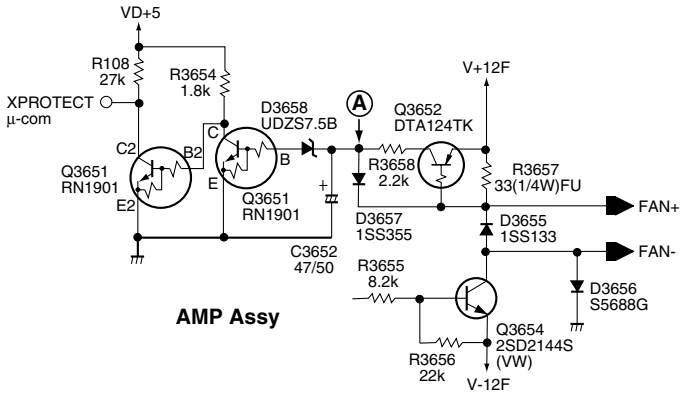
As the electric potential of VE at Q102 (Q104) (E2, C2, B2) becomes the same as that at VB, Q102 (Q104) (E2, C2, B2) is turned off. Following this, Q101 (Q103) (E2, B2, C2) is turned off, which changes the voltage at Points Ⓐ and Ⓑ to a value other than 5 V. Therefore, Q101 (Q103) (E, C, B) then Q102 (Q104) (E, C, B) are turned on, the level of XPROTECT becomes low.

→ The microcomputer detects the XPROTECT level and shuts the power to the unit off.

(3) When VD+5 is short-circuited

The level of the XPROTECT line becomes low. The microcomputer detects the XPROTECT level and shuts the power to the unit off.

2 FAN Detection Circuit

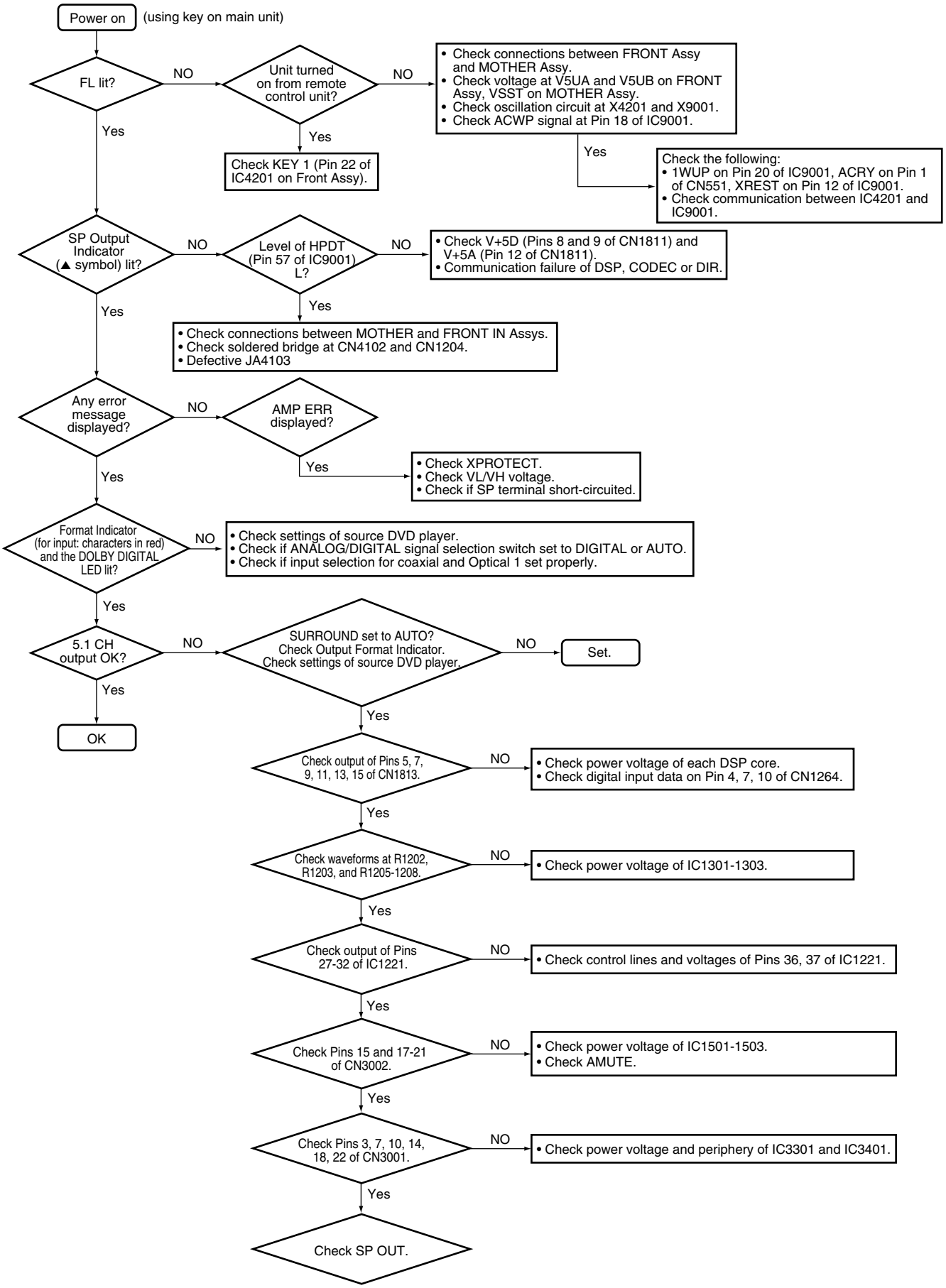


If no fan is connected between FAN+ and FAN-, or when the fan cannot rotate because of a foreign object caught in the blades, the BASE of Q3652 becomes OPEN, and Q3652 and Q3651 (E, C, B) are turned off. Then Q3651 (E2, B2, C2) is turned on, and the level of XPROTECT becomes low.

→ The microcomputer detects the XPROTECT level and shuts the power to the unit off.

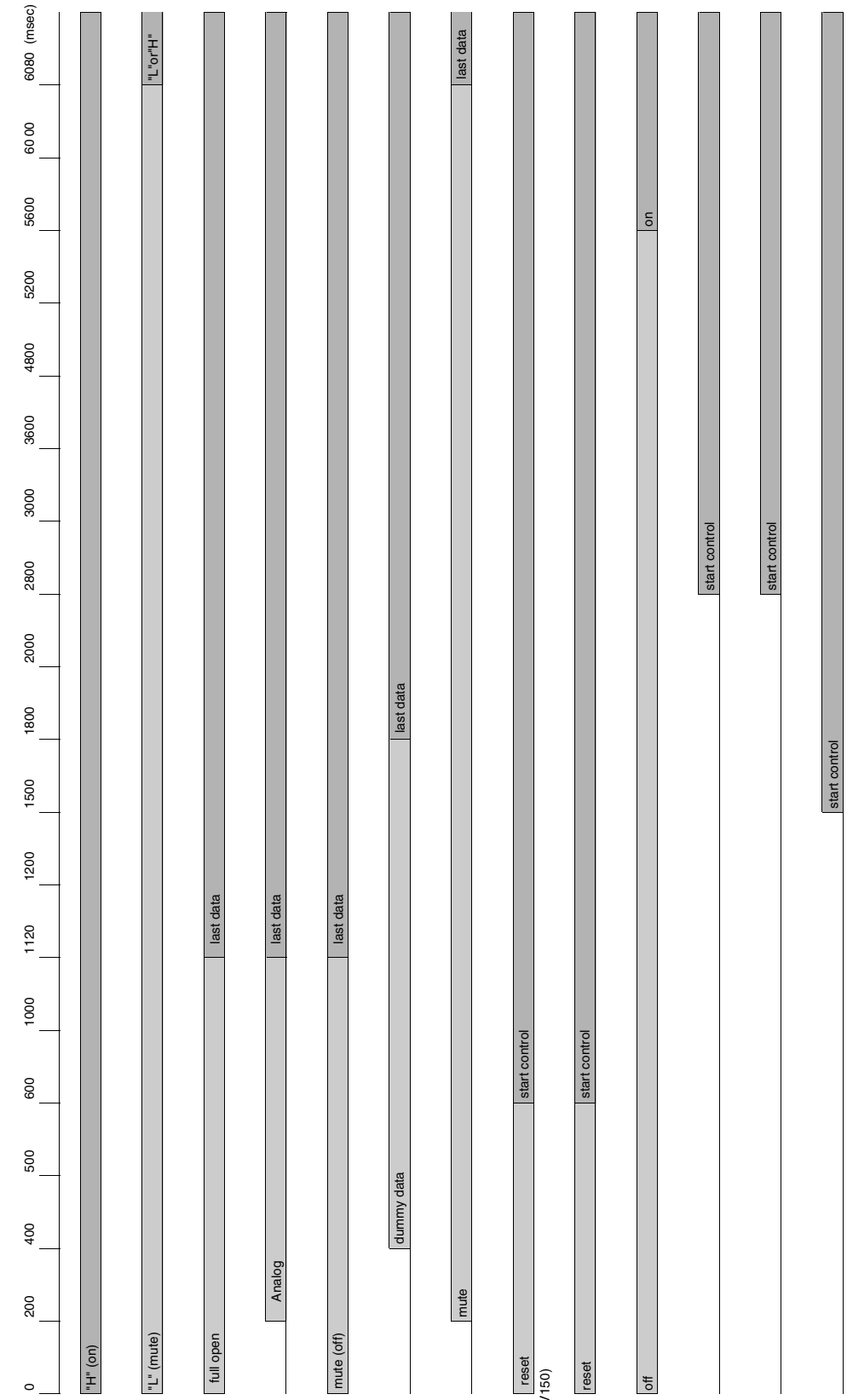
When FAN+ and FAN- are short-circuited, the electric potential at Point (A) becomes higher than GND level by the addition of the values at D3656 and D3657. As this value is lower than that at D3658, Q3651 (E, C, B) is turned off, Q3651 (E2, B2, C2) is turned on, and the level of XPROTECT becomes low.

7.1.5 Troubleshooting

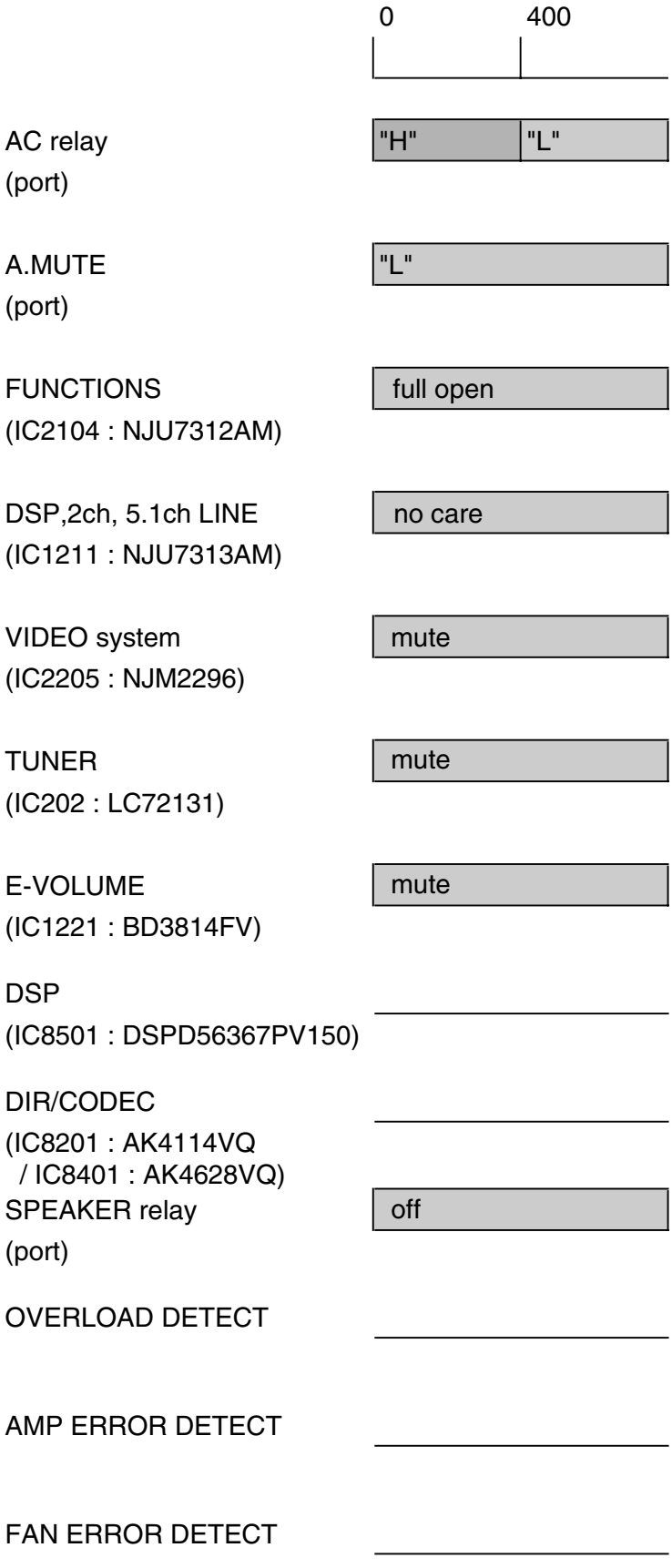

Power on
(using key on main unit)
FL lit?
NO
Unit turned on from remote control unit?
NO
• Check connections between FRONT Assy and MOTHER Assy.
• Check voltage at V5UA and V5UB on FRONT Assy, VSST on MOTHER Assy.
• Check oscillation circuit at X4201 and X9001.
• Check ACWP signal at Pin 18 of IC9001.
Yes
Check KEY 1 (Pin 22 of IC4201 on Front Assy).
Yes
Check the following:
• 1WUP on Pin 20 of IC9001, ACRY on Pin 1 of CN551, XREST on Pin 12 of IC9001.
• Check communication between IC4201 and IC9001.
SP Output Indicator (▲ symbol) lit?
NO
Level of HPDT (Pin 57 of IC9001) L?
NO
• Check V+5D (Pins 8 and 9 of CN1811) and V+5A (Pin 12 of CN1811).
• Communication failure of DSP, CODEC or DIR.
Yes
• Check connections between MOTHER and FRONT IN Assys.
• Check soldered bridge at CN4102 and CN1204.
• Defective JA4103
Any error message displayed?
NO
AMP ERR displayed?
Yes
• Check XPROTECT.
• Check VL/VH voltage.
• Check if SP terminal short-circuited.
Yes
Format Indicator (for input: characters in red) and the DOLBY DIGITAL LED lit?
NO
• Check settings of source DVD player.
• Check if ANALOG/DIGITAL signal selection switch set to DIGITAL or AUTO.
• Check if input selection for coaxial and Optical 1 set properly.
Yes
5.1 CH output OK?
NO
SURROUND set to AUTO? Check Output Format Indicator. Check settings of source DVD player.
NO
Set.
Yes
OK
Yes
Check output of Pins 5, 7, 9, 11, 13, 15 of CN1813.
NO
• Check power voltage of each DSP core.
• Check digital input data on Pin 4, 7, 10 of CN1264.
Yes
Check waveforms at R1202, R1203, and R1205-1208.
NO
• Check power voltage of IC1301-1303.
Yes
Check output of Pins 27-32 of IC1221.
NO
• Check control lines and voltages of Pins 36, 37 of IC1221.
Yes
Check Pins 15 and 17-21 of CN3002.
NO
• Check power voltage of IC1501-1503.
• Check AMUTE.
Yes
Check Pins 3, 7, 10, 14, 18, 22 of CN3001.
NO
• Check power voltage and periphery of IC3301 and IC3401.
Yes
Check SP OUT.

7.1.6 Timing Chart

■ Power ON initial timing chart

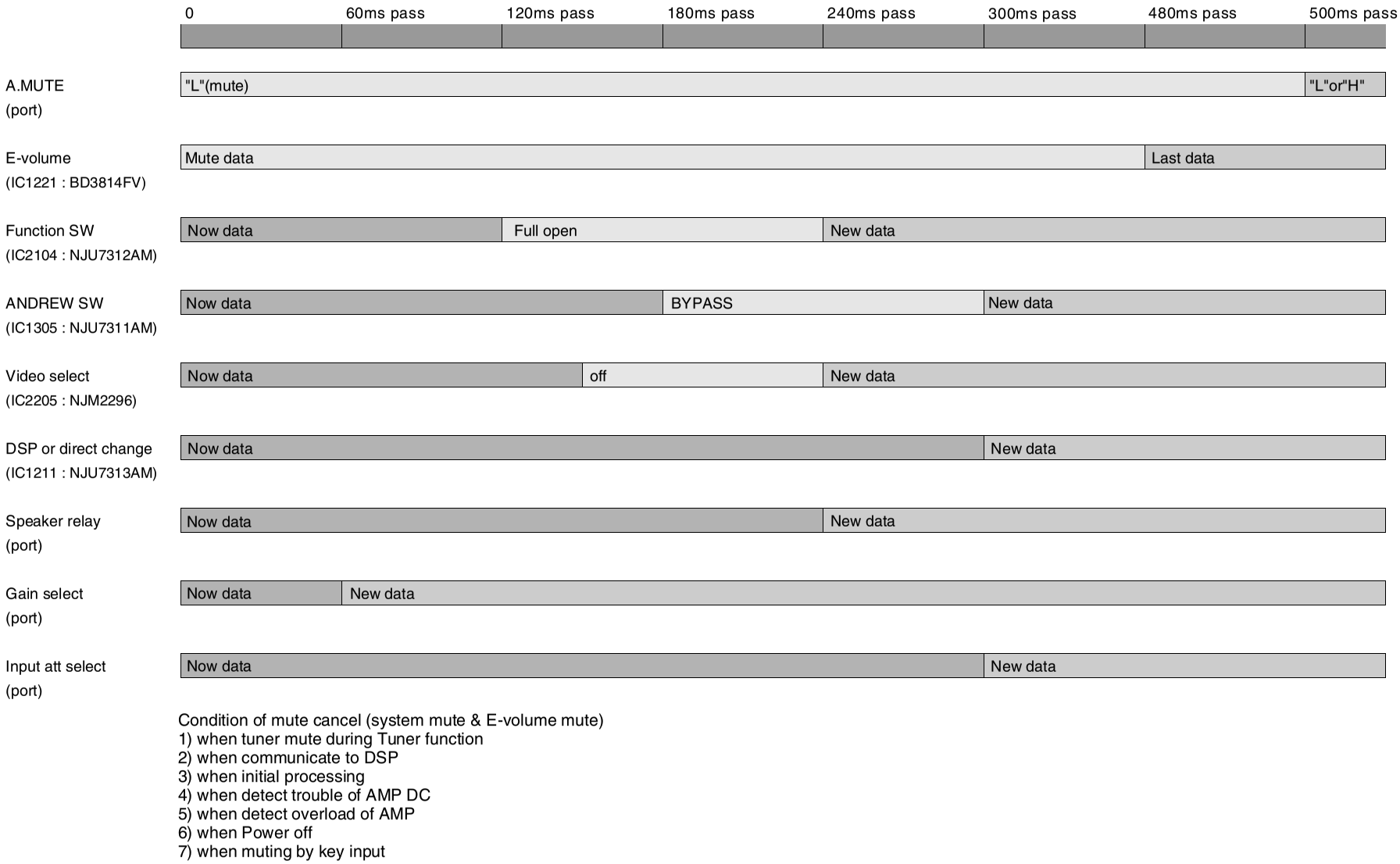


■ Power OFF initial timing chart



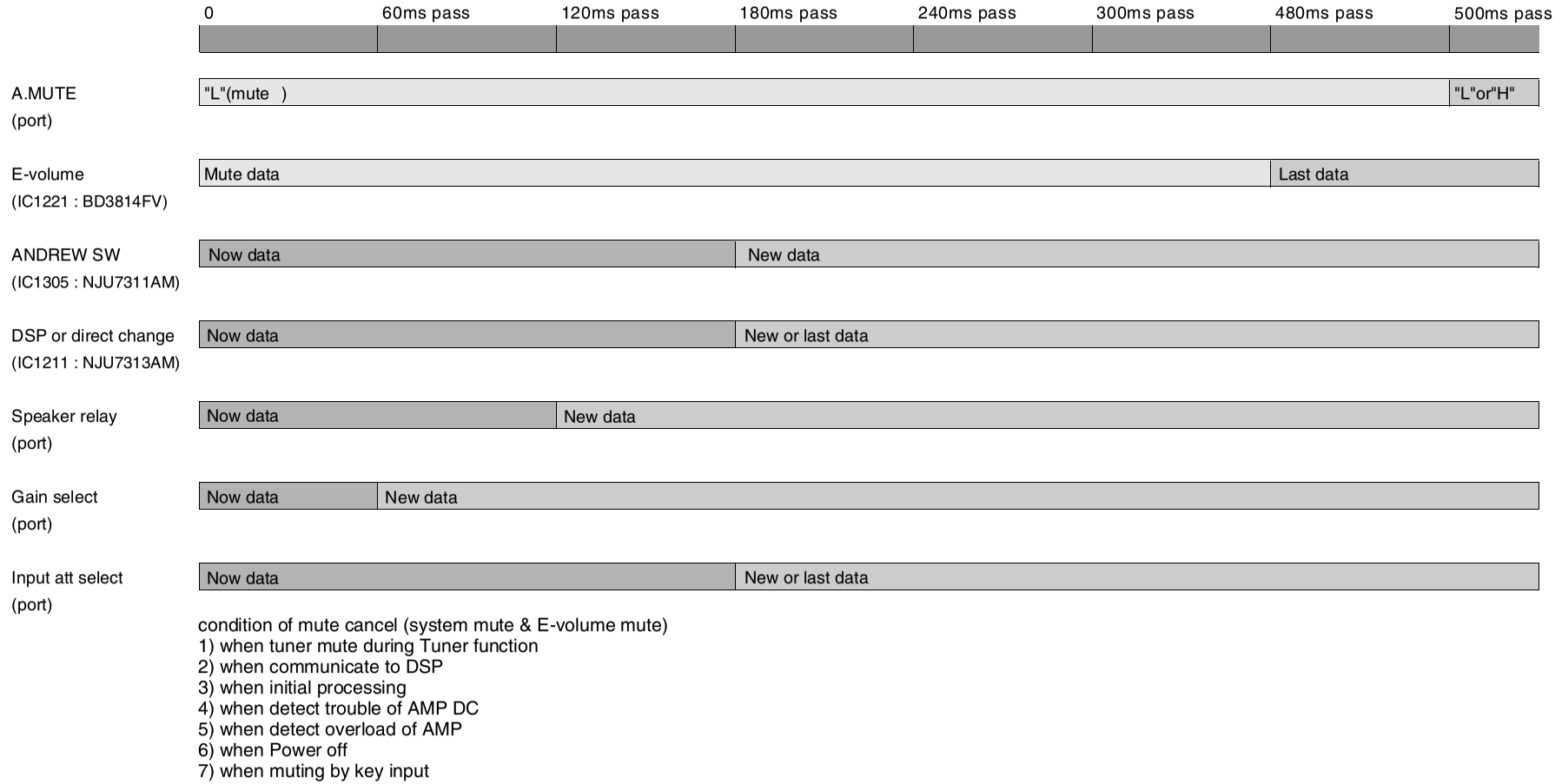
■ IC data transmission timing chart

1.When function chage



Condition of mute cancel (system mute & E-volume mute)
1) when tuner mute during Tuner function
2) when communicate to DSP
3) when initial processing
4) when detect trouble of AMP DC
5) when detect overload of AMP
6) when Power off
7) when muting by key input

2. When except function change



condition of mute cancel (system mute & E-volume mute)
1) when tuner mute during Tuner function
2) when communicate to DSP
3) when initial processing
4) when detect trouble of AMP DC
5) when detect overload of AMP
6) when Power off
7) when muting by key input

7.2 PARTS
7.2.1 IC

- The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

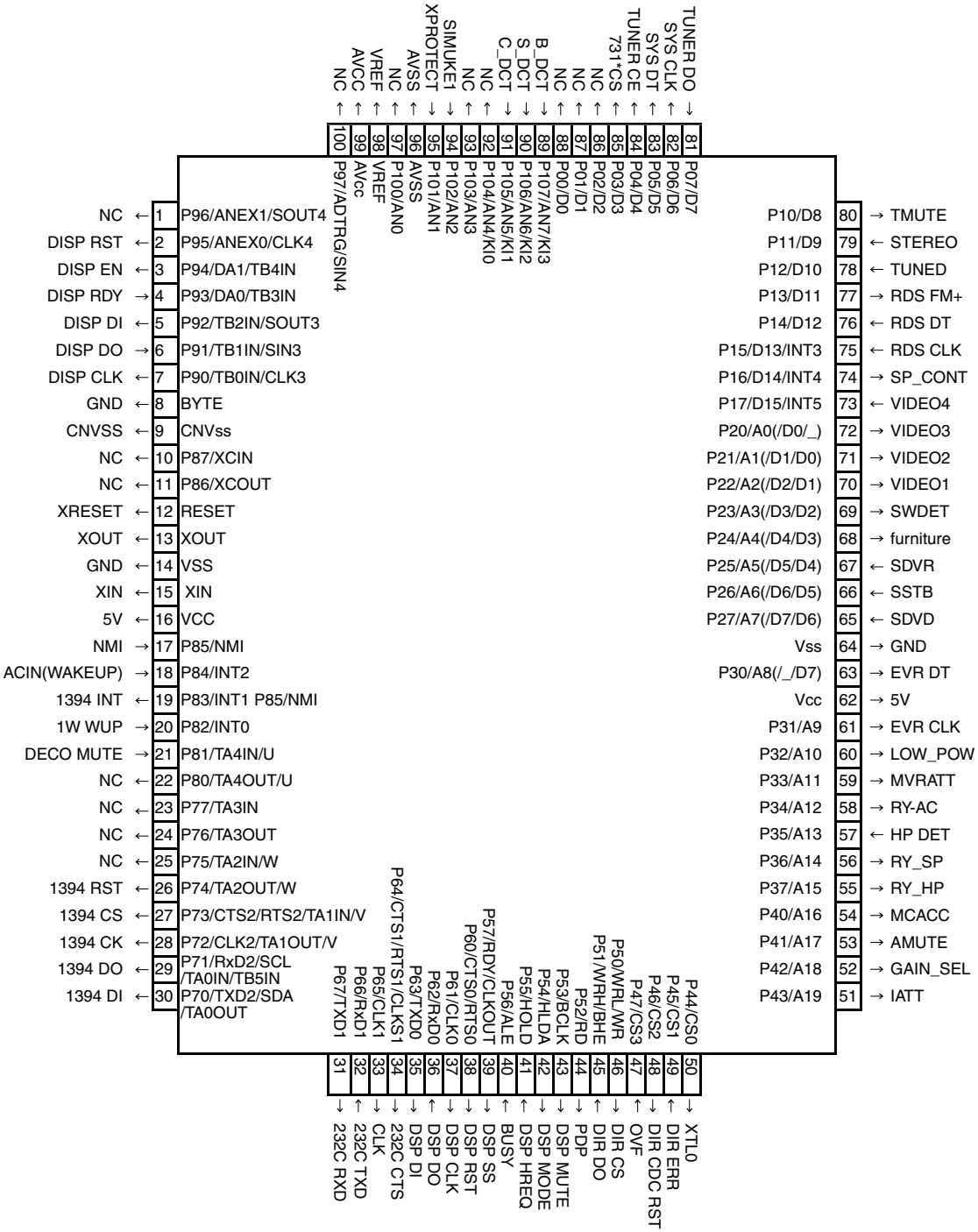
• List of IC

PD5863A, PE5368B, BA7613F

■ PD5863A (MOTHER ASSY : IC9001)

• Main Microcomputer

● Pin Arrangement (Top View)


1 NC ← P96/ANEX1/SOUT4
2 DISP RST ← P95/ANEX0/CLK4
3 DISP EN ← P94/DA1/TB4IN
4 DISP RDY → P93/DA0/TB3IN
5 DISP DI ← P92/TB2IN/SOUT3
6 DISP DO → P91/TB1IN/SIN3
7 DISP CLK ← P90/TB0IN/CLK3
8 GND ← BYTE
9 CNVSS ← CNVss
10 NC ← P87/XCIN
11 NC ← P86/XCOUT
12 XRESET ← RESET
13 XOUT ← XOUT
14 GND ← VSS
15 XIN ← XIN
16 5V ← VCC
17 NMI → P85/NMI
18 ACIN(WAKEUP) → P84/INT2
19 1394 INT ← P83/INT1 P85/NMI
20 1W WUP → P82/INT0
21 DECO MUTE → P81/TA4IN/U
22 NC ← P80/TA4OUT/U
23 NC ← P77/TA3IN
24 NC ← P76/TA3OUT
25 NC ← P75/TA2IN/W
26 1394 RST ← P74/TA2OUT/W
27 1394 CS ← P73/CTS2/RTS2/TA1IN/V
28 1394 CK ← P72/CLK2/TA1OUT/V
29 1394 DO ← P71/RxD2/SCL /TA0IN/TB5IN
30 1394 DI ← P70/TXD2/SDA /TA0OUT
31 P67/TXD1 ↓ 232C RXD
32 P66/RxD1 ↑ 232C TXD
33 P65/CLK1 ↓ CLK
34 P64/CTS1/RTS1/CLKS1 ↓ 232C CTS
35 P63/TXD0 ↓ DSP DI
36 P62/RxD0 ↑ DSP DO
37 P61/CLK0 ↓ DSP CLK
38 P60/CTS0/RTS0 ↓ DSP RST
39 P57/RDY/CLKOUT ↓ DSP SS
40 P56/ALE ↑ BUSY
41 P55/HOLD ↓ DSP HREQ
42 P54/HLDA ↓ DSP MODE
43 P53/BCLK ↓ DSP MUTE
44 P52/RD ↓ PDP
45 P51/WRH/BHE ↑ DIR DO
46 P50/WRL/WR ↓ DIR CS
47 P47/CS3 ↑ OVF
48 P46/CS2 ↓ DIR CDC RST
49 P45/CS1 ↑ DIR ERR
50 P44/CS0 ↓ XTL0
51 P43/A19 → IATT
52 P42/A18 → GAIN_SEL
53 P41/A17 → AMUTE
54 P40/A16 → MCACC
55 P37/A15 → RY_HP
56 P36/A14 → RY_SP
57 P35/A13 ← HP DET
58 P34/A12 → RY-AC
59 P33/A11 → MVRATT
60 P32/A10 → LOW_POW
61 P31/A9 → EVR CLK
62 Vcc → 5V
63 P30/A8(/_/D7) → EVR DT
64 Vss → GND
65 P27/A7(/D7/D6) ← SDVD
66 P26/A6(/D6/D5) ← SSTB
67 P25/A5(/D5/D4) ← SDVR
68 P24/A4(/D4/D3) → furniture
69 P23/A3(/D3/D2) → SWDET
70 P22/A2(/D2/D1) → VIDEO1
71 P21/A1(/D1/D0) → VIDEO2
72 P20/A0(/D0/_) → VIDEO3
73 P17/D15/INT5 ← VIDEO4
74 P16/D14/INT4 → SP_CONT
75 P15/D13/INT3 ← RDS CLK
76 P14/D12 ← RDS DT
77 P13/D11 → RDS FM+
78 P12/D10 ← TUNED
79 P11/D9 ← STEREO
80 P10/D8 → TMUTE
81 P07/D7 ↓ TUNER DO
82 P06/D6 ↑ SYS CLK
83 P05/D5 ↑ SYS DT
84 P04/D4 ↑ TUNER CE
85 P03/D3 ↑ 731*CS
86 P02/D2 ↑ NC
87 P01/D1 ↑ NC
88 P00/D0 ↑ NC
89 P107/AN7/KI3 ↓ B_DCT
90 P106/AN6/KI2 ↓ S_DCT
91 P105/AN5/KI1 ↓ C_DCT
92 P104/AN4/KI0 ↑ NC
93 P103/AN3 ↑ NC
94 P102/AN2 ↓ SIMUKE1
95 P101/AN1 ↓ XPROTECT
96 AVSS ↑ AVSS
97 P100/AN0 ↑ NC
98 VREF ↑ VREF
99 AVcc ↑ AVCC
100 P97/ADTRG/SIN4 ↑ NC

• Pin Function

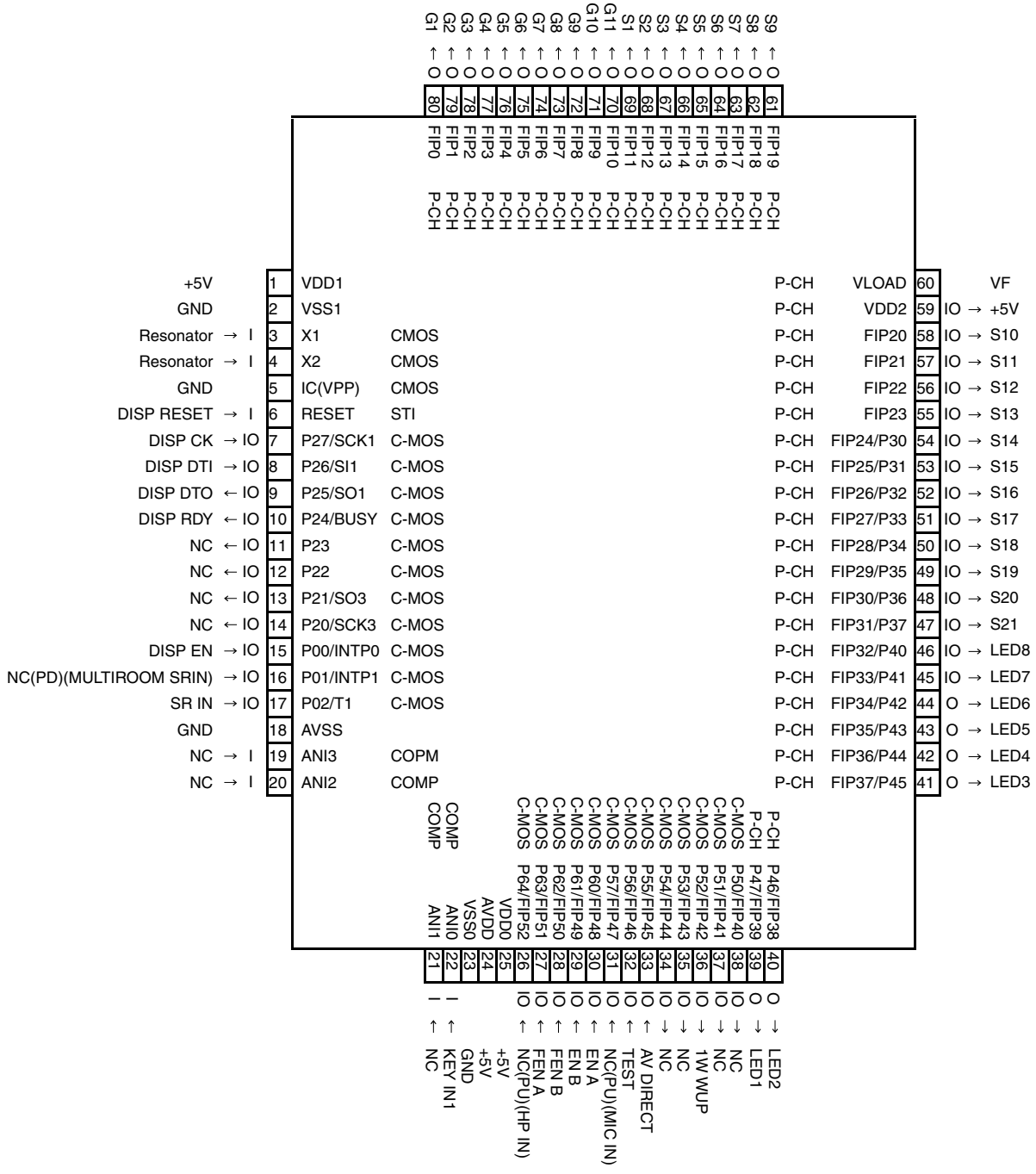
No.	Port	Pin Name	I/O	Pin Function
1	P96/ANEX1/SOUT4	NC	O	"L" fixed
2	P95/ANEX0/CLK4	DISP RST	O	Reset signal to display u-com (H: reset, L: release)
3	P94/DA1/TB4IN	DISP EN	O	Enable signal for communication to display u-com
4	P93/DA0/TB3IN	DISP RDY	I	Ready signal for communication from display u-com
5	P92/TB2IN/SOUT3	DISP DI	O	Data output signal with display u-com
6	P91/TB1IN/SIN3	DISP DO	I	Data input signal with display u-com
7	P90/TB0IN/CLK3	DISP CLK	O	Clock signal for communication with display u-com
8	BYTE	GND	-	
9	CNVss	CNVSS	-	Pull-down by 5k ohm
10	P87/XCIN	NC	O	"L" fixed
11	P86/XCOUT	NC	O	"L" fixed
12	RESET	XRESET	-	
13	XOUT	XOUT	-	
14	VSS	GND	-	
15	XIN	XIN	-	
16	VCC	5V	-	
17	P85/NMI	NMI	I	Not used (pull-up by 100k ohm)
18	P84/INT2	ACIN(WAKEUP)	I	AC pulse input (wakeup)
19	P83/INT1 P85/NMI	1394 INT	O	Not used (Standby for 1394)
20	P82/INT0	1W WUP	I	Wake up signal from display u-com in standby
21	P81/TA4IN/U	DECO MUTE	I	1st DSP detect port
22	P80/TA4OUT/U	NC	O	"L" fixed
23	P77/TA3IN	NC	O	"L" fixed
24	P76/TA3OUT	NC	O	"L" fixed
25	P75/TA2IN/W	NC	O	"L" fixed
26	P74/TA2OUT/W	1394 RST	O	Not used (Standby for 1394) "L" fixed
27	P73/CTS2/RTS2/TA1IN/V	1394 CS	O	Not used (Standby for 1394) "L" fixed
28	P72/CLK2/TA1OUT/V	1394 CK	O	Not used (Standby for 1394) "L" fixed
29	P71/RxD2/SCL/TA0IN/TB5IN	1394 DO	O	Not used (Standby for 1394) "L" fixed
30	P70/TXD2/SDA/TA0OUT	1394 DI	O	Not used (Standby for 1394) "L" fixed
31	P67/TXD1	232C RXD	O	For rewriting 232C (Data output)
32	P66/RxD1	232C TXD	I	For rewriting 232C (Data input)
33	P65/CLK1	CLK	O	It is necessary when writing for JIG
34	P64/CTS1/RTS1/CLKS1	232C CTS	O	For rewriting 232C (Admit communication)
35	P63/TXD0	DSP DI	O	Data output signal for communication with DSP and DIR
36	P62/RxD0	DSP DO	I	Data input signal for communication with DSP
37	P61/CLK0	DSP CLK	O	Clock signal for communication with DSP and DIR
38	P60/CTS0/RTS0	DSP RST	O	Reset signal for DSP (L: reset, H: release)
39	P57/RDY/CLKOUT	DSP SS	O	Slave select signal to DSP
40	P56/ALE	BUSY	I	Not used (Use it in MCACC)
41	P55/HOLD	DSP HREQ	I	DSP error detect signal (pull-down by 100k ohm)
42	P54/HLDA	DSP MODE	O	Mode select of DSP (ROM/RAM) (H: ROM mode, L: RAM mode)
43	P53/BCLK	DSP MUTE	O	DSP ASSY mute
44	P52/RD	PDP	O	H: Data transfer to PDP, L: others
45	P51/WRH/BHE	DIR DO	I	Data input signal for communication with DIR/DAC
46	P50/WRL/WR	DIR CS	O	Chip select signal for communication with DIR/DAC
47	P47/CS3	OVF	I	DIR codec over flag
48	P46/CS2	DIR CDC RST	O	Reset signal for DIR codec
49	P45/CS1	DIR ERR	I	Lock/unlock signal
50	P44/CS0	XTL0	O	DIR X'tal change

No.	Port	Pin Name	I/O	Pin Function
51	P43/A19	IATT	O	Input ATT control signal
52	P42/A18	GAIN_SEL	O	Gain select (5.1ch and Stereo of analog input : H)
53	P41/A17	AMUTE	O	System mute (L: mute ON)
54	P40/A16	MCACC	O	Not used (HP/MIC switching control)
55	P37/A15	RY_HP	O	Headphone relay ON/OFF
56	P36/A14	RY_SP	O	All ch speaker relays ON/OFF
57	P35/A13	HP DET	I	HP detect
58	P34/A12	RY-AC	O	AC relay ON/OFF
59	P33/A11	MVRATT	O	ATT control of master volume (less than -15dB : L)
60	P32/A10	LOW_POW	O	H: Normal mode, L: Stop mode
61	P31/A9	EVR CLK	O	Clock signal for E-volume
62	Vcc	5V	-	
63	P30/A8(/_/D7)	EVR DT	O	Data signal for E-volume
64	Vss	GND	-	
65	P27/A7(/D7/D6)	SDVD	I	Status signal input of DVD SCART
66	P26/A6(/D6/D5)	SSTB	I	Status signal input of STB SCART
67	P25/A5(/D5/D4)	SDVR	I	Status signal input of DVD SCART
68	P24/A4(/D4/D3)	furniture	O	Furniture control signal
69	P23/A3(/D3/D2)	SWDET	I	SWSP detect
70	P22/A2(/D2/D1)	VIDEO1	O	Video signal control 1
71	P21/A1(/D1/D0)	VIDEO2	O	Video signal control 2
72	P20/A0(/D0/_)	VIDEO3	O	Video signal control 3
73	P17/D15/INT5	VIDEO4	O	Video signal control 4
74	P16/D14/INT4	SP_CONT	O	Output signal for SP auto-detection
75	P15/D13/INT3	RDS CLK	I	Clock input signal for RDS module
76	P14/D12 RDS	RDS_DT	I	Data input signal for RDS module
77	P13/D11 RDS	RDS FM+	O	Power ON/OFF of RDS decoder
78	P12/D10	TUNED	I	L : TUNED
79	P11/D9	STEREO	I	L :STEREO
80	P10/D8	TMUTE	O	Tuner mute
81	P07/D7	TUNER DO	I	Data input signal for tuner contorol
82	P06/D6	SYS CLK	O	Clock signal for NJU7312AM switch and tuner contorol
83	P05/D5	SYS DT	O	Data output signal for NJU7312AM switch and tuner contorol
84	P04/D4	TUNER CE	O	Chip select signal for tuner contorol
85	P03/D3	731*CS	O	Chip select signal for NJU7312AM switch
86	P02/D2	NC	O	"L" fixed
87	P01/D1	NC	O	"L" fixed
88	P00/D0	NC	O	"L" fixed
89	P107/AN7/KI3	B_DCT	I	Not used (surround back ch SP detect)
90	P106/AN6/KI2	S_DCT	I	Surround ch SP detect
91	P105/AN5/KI1	C_DCT	I	Center ch SP detect
92	P104/AN4/KI0	NC	O	"L" fixed
93	P103/AN3	NC	O	"L" fixed
94	P102/AN2	SIMUKE1	I	Input 1 to switch region
95	P101/AN1	XPROTECT	I	Ptotection circuit detect for amp. module
96	AVSS	AVSS	-	Connect to VSS
97	P100/AN0	NC	O	"L" fixed
98	VREF	VREF	-	Connect to VCC
99	AVcc	AVCC	-	Connect to VCC
100	P97/ADTRG/SIN4	NC	O	"L" fixed

■ PE5368B (FRONT ASSY : IC4201)

• Display Microcomputer

● Pin Arrangement (Top View)


+5V 1 VDD1
GND 2 VSS1
Resonator → I 3 X1 CMOS
Resonator → I 4 X2 CMOS
GND 5 IC(VPP) CMOS
DISP RESET → I 6 RESET STI
DISP CK → IO 7 P27/SCK1 C-MOS
DISP DTI → IO 8 P26/SI1 C-MOS
DISP DTO ← IO 9 P25/SO1 C-MOS
DISP RDY ← IO 10 P24/BUSY C-MOS
NC ← IO 11 P23 C-MOS
NC ← IO 12 P22 C-MOS
NC ← IO 13 P21/SO3 C-MOS
NC ← IO 14 P20/SCK3 C-MOS
DISP EN → IO 15 P00/INTP0 C-MOS
NC(PD)(MULTIROOM SRIN) → IO 16 P01/INTP1 C-MOS
SR IN → IO 17 P02/T1 C-MOS
GND 18 AVSS
NC → I 19 ANI3 COPM
NC → I 20 ANI2 COMP
P-CH VLOAD 60 VF
P-CH VDD2 59 IO → +5V
P-CH FIP20 58 IO → S10
P-CH FIP21 57 IO → S11
P-CH FIP22 56 IO → S12
P-CH FIP23 55 IO → S13
P-CH FIP24/P30 54 IO → S14
P-CH FIP25/P31 53 IO → S15
P-CH FIP26/P32 52 IO → S16
P-CH FIP27/P33 51 IO → S17
P-CH FIP28/P34 50 IO → S18
P-CH FIP29/P35 49 IO → S19
P-CH FIP30/P36 48 IO → S20
P-CH FIP31/P37 47 IO → S21
P-CH FIP32/P40 46 IO → LED8
P-CH FIP33/P41 45 IO → LED7
P-CH FIP34/P42 44 O → LED6
P-CH FIP35/P43 43 O → LED5
P-CH FIP36/P44 42 O → LED4
P-CH FIP37/P45 41 O → LED3
G1 ↑ O 80 P-CH FIP0
G2 ↑ O 79 P-CH FIP1
G3 ↑ O 78 P-CH FIP2
G4 ↑ O 77 P-CH FIP3
G5 ↑ O 76 P-CH FIP4
G6 ↑ O 75 P-CH FIP5
G7 ↑ O 74 P-CH FIP6
G8 ↑ O 73 P-CH FIP7
G9 ↑ O 72 P-CH FIP8
G10 ↑ O 71 P-CH FIP9
G11 ↑ O 70 P-CH FIP10
S1 ↑ O 69 P-CH FIP11
S2 ↑ O 68 P-CH FIP12
S3 ↑ O 67 P-CH FIP13
S4 ↑ O 66 P-CH FIP14
S5 ↑ O 65 P-CH FIP15
S6 ↑ O 64 P-CH FIP16
S7 ↑ O 63 P-CH FIP17
S8 ↑ O 62 P-CH FIP18
S9 ↑ O 61 P-CH FIP19
COMP COMP 21 I ↑ NC
C-MOS ANI1 22 I ↑ KEY IN1
C-MOS ANI0 23 GND
C-MOS VSS0 24
C-MOS AVDD 25 +5V
C-MOS VDD0 26 IO ↑ NC(PU)(HP IN)
C-MOS P64/FIP52 27 IO ↑ FEN A
C-MOS P63/FIP51 28 IO ↑ FEN B
C-MOS P62/FIP50 29 IO ↑ EN B
C-MOS P61/FIP49 30 IO ↑ EN A
C-MOS P60/FIP48 31 IO ↑ NC(PU)(MIC IN)
C-MOS P57/FIP47 32 IO ↑ TEST
C-MOS P56/FIP46 33 IO ↑ AV DIRECT
C-MOS P55/FIP45 34 IO ↓ NC
C-MOS P54/FIP44 35 IO ↓ NC
C-MOS P53/FIP43 36 IO ↓ 1W WUP
C-MOS P52/FIP42 37 IO ↓ NC
C-MOS P51/FIP41 38 IO ↓ NC
C-MOS P50/FIP40 39 O ↓ LED1
P-CH P47/FIP39 40 O ↓ LED2
C-MOS P46/FIP38

• Pin Function

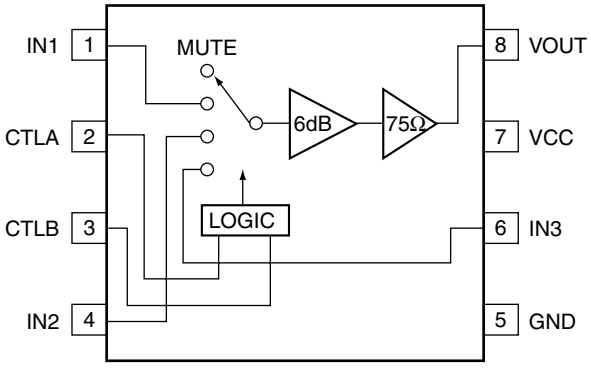
No.	Port	Pin Name	I/O	Pin Function
1	VDD1	+5V	-	Positive power supply
2	VSS1	GND	-	Ground potential
3	X1	Resonator	-	Crystal connection for system clock oscillation
4	X2	Resonator	-	Crystal connection for system clock oscillation
5	IC(VPP)	GND	-	
6	RESET	DISP RESET	-	Receive reset signal from main u-com
7	P27/SCK1	DISP CK	I	Clock signal from main u-com
8	P26/SI1	DISP DTI	I	Datain from main u-com
9	P25/SO1	DISP DTO	O	Data out to main u-com
10	P24/BUSY	DISP RDY	O	Ready signal from main u-com
11	P23	NC	O/L	
12	P22	NC	O/L	
13	P21/SO3	NC	O/L	
14	P20/SCK3	NC	O/L	
15	P00/INTP0	DISP EN	I	Enable signal from main u-com
16	P01/INTP1	NC	I	
17	P02/T1	SR IN	I	Remote control signal input from main room
18	AVSS	GND	-	Ground potential for A/D converter
19	ANI3	NC	I	
20	ANI2	NC	I	
21	ANI1	NC	I	
22	ANI0	KEY IN1	I	
23	VSS0	GND	-	Ground potential for ports
24	AVDD	'+5V	-	Analog power voltage input to A/D converter
25	VDD0	'+5V	-	Positive power supply to ports
26	P64/FIP52	NC	I	
27	P63/FIP51	FEN A	I	MULTI JOG(Right)
28	P62/FIP50	FEN B	I	MULTI JOG(Left)
29	P61/FIP49	EN B	I	VOLUME JOG1(-)
30	P60/FIP48	EN A	I	VOLUME JOG1(+)
31	P57/FIP47	NC	I	
32	P56/FIP46	TEST	I	Test mode input for checker
33	P55/FIP45	AV DIRECT	I	
34	P54/FIP44	NC	O	
35	P53/FIP43	NC	O	
36	P52/FIP42	1W WUP	O	Output wakeup signal to main u-com
37	P51/FIP41	NC	O/L	
38	P50/FIP40	NC	O/L	
39	P47/FIP39	LED1	O	LED output
40	P46/FIP38	LED2	O	LED output

No.	Port	Pin Name	I/O	Pin Function
41	FIP37/P45	LED3	O	LED output
42	FIP36/P44	LED4	O	LED output
42	FIP35/P43	LED5	O	LED output
44	FIP34/P42	LED6	O	LED output
45	FIP33/P41	LED7	O	LED Output
46	FIP32/P40	LED8	O	LED output
47	FIP31/P37	S21	O	Display
48	FIP30/P36	S20	O	Display
49	FIP29/P35	S19	O	Display
50	FIP28/P34	S18	O	Display
51	FIP27/P33	S17	O	Display
52	FIP26/P32	S16	O	Display
53	FIP25/P31	S15	O	Display
54	FIP24/P30	S14	O	Display
55	FIP23	S13	O	Display
56	FIP22	S15	O	Display
57	FIP21	S11	O	Display
58	FIP20	S10	O	Display
59	VDD2	'+5V	-	Positive power supply to FIP controller.
60	VLOAD	VF	-	Pull down resistor connection of FIP controller
61	FIP19	S9	O	Display
62	FIP18	S8	O	Display
63	FIP17	S7	O	Display
64	FIP16	S6	O	Display
65	FIP15	S5	O	Display
66	FIP14	S4	O	Display
67	FIP13	S3	O	Display
68	FIP12	S2	O	Display
69	FIP11	S1	O	Display
70	FIP10	G11	O	Display
71	FIP9	G10	O	Display
72	FIP8	G9	O	Display
73	FIP7	G8	O	Display
74	FIP6	G7	O	Display
75	FIP5	G6	O	Display
76	FIP4	G5	O	Display
77	FIP3	G4	O	Display
78	FIP2	G3	O	Display
79	FIP1	G2	O	Display
80	FIP0	G1	O	Display

■ BA7613F (SCART-2F ASSY : IC2201- IC2203)

• Video Signal Switcher for VTR, TV

● Block Diagram



● Pin Function

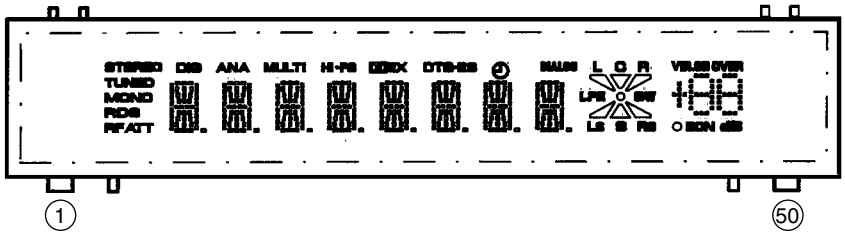
No.	Pin Name	I/O	Function
1	IN1	I	Signal input
2	CTLA	I	Control input
3	CTLB	I	Control input
4	IN2	I	Signal input
5	GND	–	Ground
6	IN3	I	Signal input
7	VCC	–	Power supply
8	VOUT	O	Signal output

7.2.2 DISPLAY

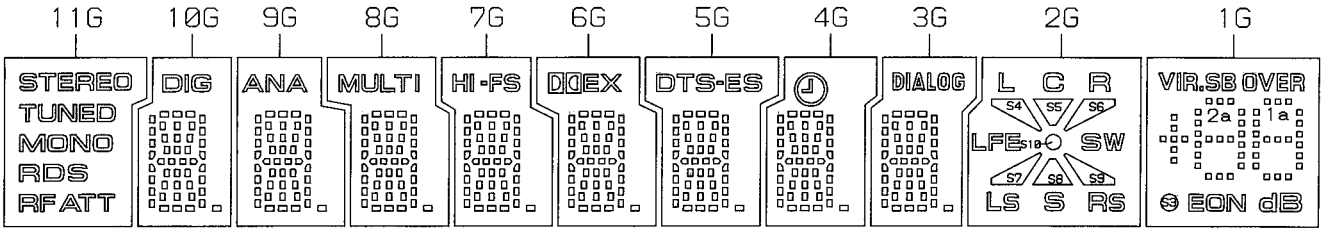
■ AAV7093 (FRONT ASSY : V4301)

• FL Display

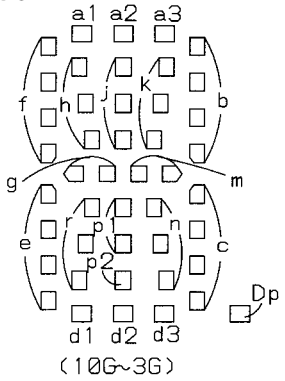
● Pin Assignment

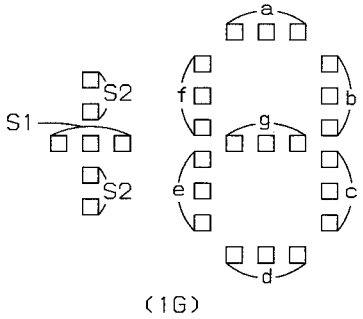


● Grid Assignment



● Segment Designation





● Pin Connection

PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
CONNECTION	F1	NX	NP	NP	1G	2G	3G	4G	5G	6G	7G	8G	9G	10G	11G	P1	P2	P3	P4	P5	P6	P7	P8	P9	NX	NX	NX	NX	NX	NX	NX	NX	NX	P01	P11	P12	P13	P14	P15	P16	P17	P18	P19	P20	P21	P22	NP	NP	NX	F2

NOTE
1) F1,F2 --- Filament
2) NP ------ No pin
3) NX ------ No extend pin
4) DL ------ Datum Line
5) 1G~11G --- Grid
6) Solder composition is Sn-3Ag-0.5Cu.

● **Anode Connection**

	11G	10G	9G	8G	7G	6G	5G	4G	3G	2G	1G
P1	STEREO	a1	a1	a1	a1	a1	a1	a1	a1	L	OVER
P2	TUNED	a2	a2	a2	a2	a2	a2	a2	a2	S4	2a
P3	MONO	h	h	h	h	h	h	h	h	C	2b
P4	RDS	j	j	j	j	j	j	j	j	S5	2f
P5	RF	k	k	k	k	k	k	k	k	R	2g
P6	ATT	b	b	b	b	b	b	b	b	S6	2c
P7	–	f	f	f	f	f	f	f	f	LFE	2e
P8	–	m	m	m	m	m	m	m	m	S10	2d
P9	–	g	g	g	g	g	g	g	g	SW	1a
P10	–	c	c	c	c	c	c	c	c	S7	1b
P11	–	e	e	e	e	e	e	e	e	S8	1f
P12	–	r	r	r	r	r	r	r	r	S9	1g
P13	–	p1	p1	p1	p1	p1	p1	p1	p1	LS	1c
P14	–	n	n	n	n	n	n	n	n	S	1e
P15	–	d1	d1	d1	d1	d1	d1	d1	d1	RS	1d
P16	–	d2	d2	d2	d2	d2	d2	d2	d2	–	S1
P17	–	Dp	Dp	Dp	Dp	Dp	Dp	Dp	Dp	–	S3
P18	–	a3	a3	a3	a3	a3	a3	a3	a3	–	VIR.SB
P19	–	p2	p2	p2	p2	p2	p2	p2	p2	–	EON
P20	–	d3	d3	d3	d3	d3	d3	d3	d3	–	S2
P21	–	DIG	ANA	MULTI	HI-FS	DEX	DTS-ES	◎	DIALOG	–	dB

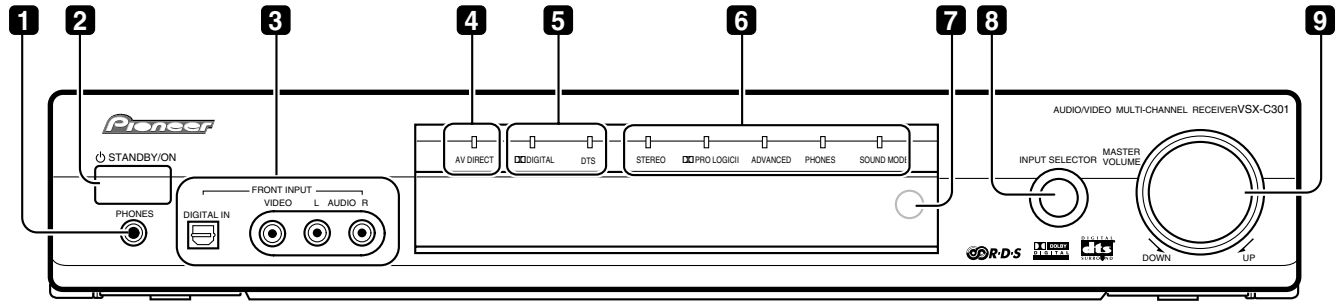
7.3 CLEANING

Before shipping out the product, be sure to clean the following positions by using the prescribed cleaning tools:

Position to be cleaned	Cleaning tools
Fans	Cleaning paper : GED-008

8. PANEL FACILITIES

Front panel



1 PHONES jack
When headphones are connected there is no sound output from the speakers.

2 ⏻ STANDBY/ON button
Press to switch the receiver on or into standby.

3 FRONT INPUT jacks
Use to connect an audio/video component.

4 AV DIRECT indicator
Lights in standby when the receiver is passing an audio/video signal from one SCART AV connector to another.

5 Digital surround format indicators

DIGITAL indicator
Lights when the current source is Dolby Digital.
DTS indicator
Lights when the current source is DTS.

6 Listening mode indicators

STEREO indicator
Lights when the source is stereo and/or the listening mode has been set to **STEREO**.

PRO LOGIC II indicator
Lights when one of the Dolby Pro Logic II surround modes is active with a 2 channel (stereo) source.

ADVANCED indicator
Lights when one of the Advanced Surround modes is active.

PHONES indicator
Lights when phones surround mode is active.

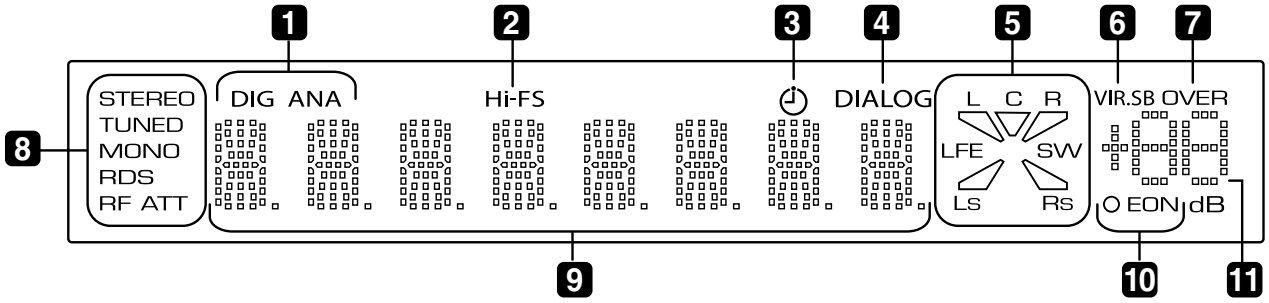
SOUND MODE indicator
Lights when one of the Sound Modes is active.

7 Remote control sensor

8 INPUT SELECTOR knob
Turn to cycle through the various inputs. The current input is shown in the front panel display.

9 MASTER VOLUME knob
Use to adjust the volume.

Display



1 DIG (digital) / ANA (analog)
Indicates whether the current input source is analog or digital.

2 Hi-FS
Lights when the current input signal is 88.2/96 kHz digital.

3 Sleep timer indicator
Lights when the sleep timer has been set.

4 DIALOG indicator
Lights when Dialog Enhancement is on.

5 Input/output channel indicators
The letters **L**, **C**, **R**, **LFE**, **Ls** and **Rs** indicate the input channels coming into the receiver. The segments and **SW** (subwoofer) indicate the active speaker output channels.

6 VIR.SB indictor
Lights when the Virtual Surround Back effect is on.

7 OVER
Lights when the input signal is too high, risking distortion. Use the input attenuator to reduce the level.

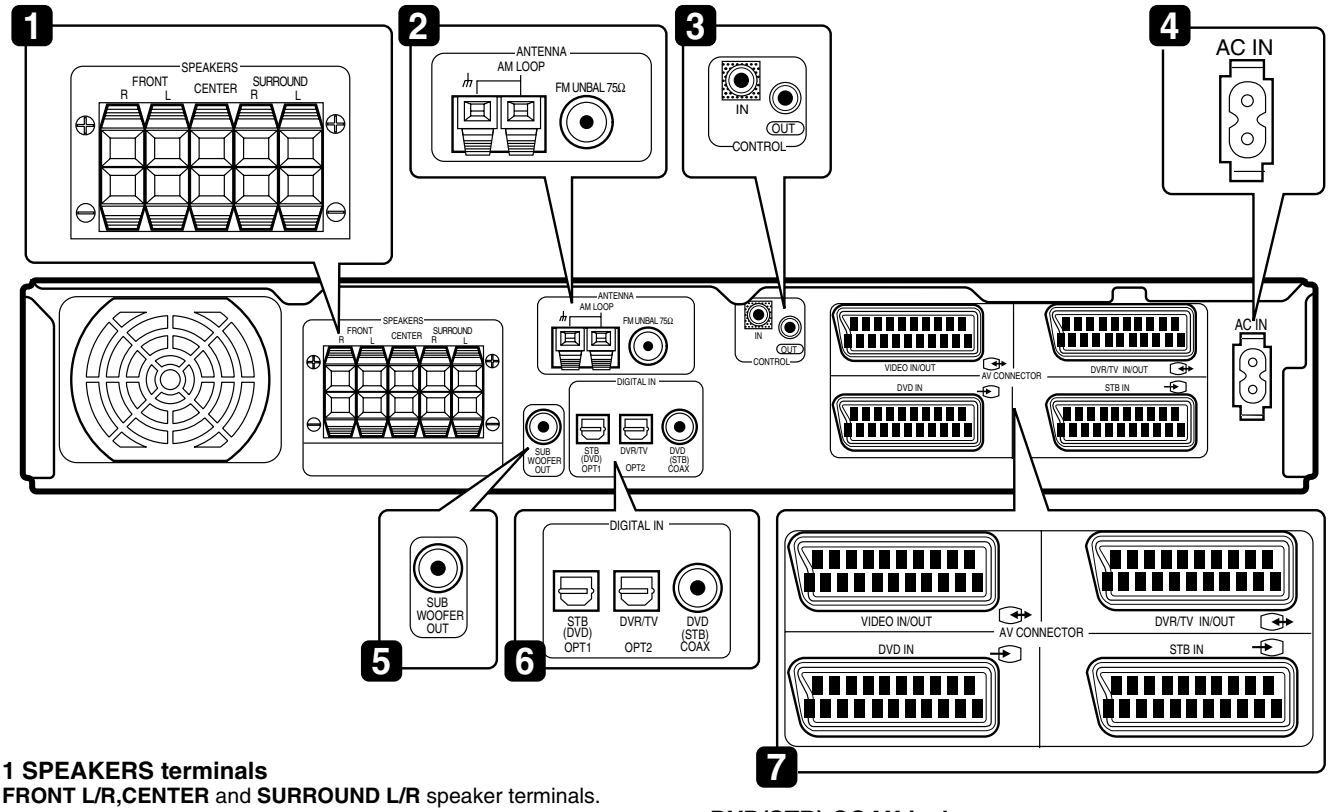
8 Tuner indicators
STEREO
Lights when listening to a stereo FM broadcast in auto/stereo mode.
TUNED
Lights when tuned to a broadcast.
MONO
Lights when the tuner MPX mode is set to mono.
RDS
Lights when listening to a station that is broadcasting RDS information.
RF ATT
Lights when the RF attenuator is switched on.

9 Character display

10 EON indicators
EON lights when EON is set. The dot indicator to the left lights when the current broadcast carries the EON data service.

11 Volume level indicator
Indicates the volume level in dB.

Rear panel



1 SPEAKERS terminals

FRONT L/R,CENTER and **SURROUND L/R** speaker terminals.

2 Antenna connections

AM LOOP

Connect the supplied AM loop antenna or an outdoor antenna if reception is bad.

FM UNBAL 75Ω antenna terminal

Connect the supplied FM wire or an outdoor antenna if reception is bad.

3 CONTROL IN jack / CONTROL OUT jack

Use to link Pioneer components together to enable all components in the chain to use just one remote control sensor.

4 AC IN

Connect the supplied AC power cable.

5 SUBWOOFER OUT jack

Connect a powered (active) subwoofer.

6 Digital connections

The three digital audio jacks are all inputs. Connect to the digital outputs of digital source components such as DVD and CD players, satellite receivers, etc.

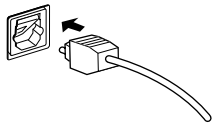
STB(DVD) OPT1 jack

Optical digital audio jack for the **STB** input (although it is possible to reassign it to the **DVD** input).

DVR/TV OPT2 jack

Optical digital audio jack for the **DVR/TV** input.

- When connecting optical cables, be careful when inserting the plug not to damage the shutter protecting the optical socket.



- When storing optical cable, coil loosely. The cable may be damaged if bent around sharp corners.

DVD(STB) COAX jack

Coaxial digital audio jack for the **DVD** input (although it is possible to reassign it to the **STB** input).

7 SCART AV connectors

The four SCART-type AV connectors carry video and analog audio.

VIDEO IN/OUT AV connector

AV connector for the **VIDEO** input. When the receiver is set to any other input, that signal is output from the **VIDEO IN/OUT** AV connector.

DVR/TV IN/OUT AV connector

AV connector for the **DVR/TV** input. When the receiver is set to any other input, that signal is output from the **DVR/TV IN/OUT** AV connector.

DVD IN AV connector

AV connector for the **DVD** input.

STB IN AV connector

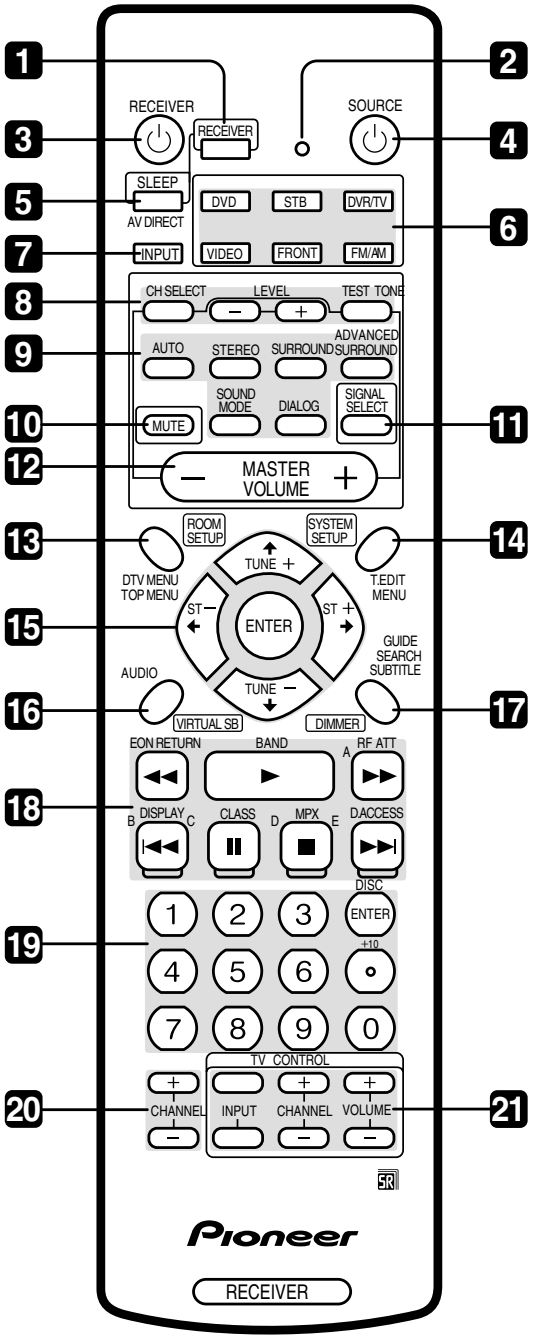
AV connector for the **STB** input.

The table below shows the input and output video formats available for each AV connector.

Connector	Input	Output
DVD	Composite, S-video, RGB	–
STB	Composite, S-video, RGB	–
VIDEO	Composite, S-video, RGB	Composite
DVR/TV	Composite	Composite, S-video, RGB

Remote control

Function names printed in green on the remote control are receiver-related functions. Function names printed in blue are for the built-in tuner. Other functions relate to other equipment that you can control using this remote.



1 RECEIVER
Press to put the remote in 'receiver' mode (i.e., the remote controls the receiver functions).

2 LED
Indicates a remote control operation.

3 ⏻RECEIVER
Press to switch the receiver on or into standby.

4 ⏻SOURCE
Press to switch the current source component on or into standby.

5 AV DIRECT
Press to switch the AV Direct function on / off.

SLEEP (RECEIVER + AV DIRECT)
Use to set the sleep timer.

6 Input/remote control mode select buttons
When the Remote Direct function is set to on (Default is ON), these buttons change the remote mode and the receiver input simultaneously. When set to off, they only switch the remote mode.

DVD
Press to select **DVD** as the current input.
STB
Press to select **STB** (set-top box) as the current input.
DVR/TV
Press to select **DVR/TV** as the current input.
VIDEO
Press to select **VIDEO** as the current input.
FRONT
Press to select **FRONT** (the front panel audio/video inputs) as the current input.
FM/AM
Press to select **FM/AM** (the built-in tuner) as the current input.

7 INPUT
Press to cycle through the various inputs. The current input is shown in the front panel display.

8 Channel setup buttons
CH SELECT
Use to select the speaker channel to adjust.
LEVEL +/–
Use to adjust the output level of the current speaker channel.
TEST TONE
Press to start/stop the test tone.

9 Sound buttons
AUTO
Press to select the **AUTO** (default) sound for the current source (stereo, Dolby Digital, DTS, etc.) and switch off all other sound processing.
STEREO
Press to hear the current source in stereo.
SURROUND
Use to select a **SURROUND** mode for the current source.

ADVANCED SURROUND
Use to select an **ADVANCED SURROUND** mode for the current source.
SOUND MODE
Use to select a **SOUND MODE** for the current source.
DIALOG
Press to switch on/off **DIALOG** (dialog enhancement).

10 MUTE
Press to mute all output. Press again (or adjust the volume using the **MASTER VOLUME** control) to restore the sound.

11 SIGNAL SELECT
Use to select the analog or digital signal for the **DVD,STB,DVR/TV** and **FRONT** inputs.

12 MASTER VOLUME
Use to adjust the volume.

13 ROOM SETUP
Use to select a preset room setup.

14 SYSTEM SETUP
Press to access the **SYSTEM SETUP** menu to make detailed receiver settings.

15 Cursor keys and ENTER
Use to navigate menus and select options/execute commands.

16 VIRTUAL SB
Press to switch on/off the virtual surround back mode.

17 DIMMER
First press **RECEIVER**, then press **DIMMER** repeatedly to change the brightness/switch off the front panel display. The display will light brightly for about two seconds when you operate the receiver with the display off or dimmed. (Note that the master volume indicator always remains lit, even when the rest of the display is off.)

18 Playback controls
Playback controls for external components, such as DVD and CD players.
Functions printed in blue control the built-in tuner; other functions control other external equipment.

19 Number buttons
Use for numerical input of track numbers, radio frequencies, and so on.

20 CHANNEL +/–
Use to change channels on a satellite receiver, cable box, VCR or DVR.

21 TV CONTROL buttons
Use to control your TV (after setting up the remote control to work with your TV).

Clearing preset codes
This restores all presets to the factory defaults. See Using the remote control with other components for the default remote settings.

- **Press RECEIVER and number button '0' (zero) at the same time. Keep them pressed for about 3 seconds.**

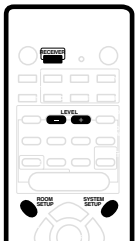
The LED on the remote control blinks three times indicating all the preset codes have been cleared.

The default preset codes are shown in the table.

Input/control mode select button	Preset code	Component (manufacturer)
DVD	020	DVD (Pioneer)
STB	200	STB (Pioneer)
DVR/TV	459	DVD recorder (Pioneer)
VIDEO	600	TV (Pioneer)
FRONT	100	LD (Pioneer)
FM/AM	n/a	(built-in tuner)
TV CONTROL	600	TV (Pioneer)

Resetting the system

Use this feature to reset the system to its factory default settings.



1 Press RECEIVER

2 In standby, press ROOM SETUP and SYSTEM SETUP at the same time.
The display prompts you to confirm.

3 Within 5 seconds, press LEVEL –.
The display shows **OK**.

4 Within 5 seconds, press LEVEL +.
The receiver should now be reset.

Note

- If the receiver is disconnected from the power outlet for more than a month it will reset to the default settings.
- The above reset doesnít affect the presets that you have programmed into the remote control (see Using the remote control with other components).

Default receiver settings

The table below shows the factory default settings. When you reset the system, the receiver reverts to these defaults.

Setting type	Default setting
Input	**DVD**
Master volume	**– – – dB** (no sound)
Listening mode	**AUTO** (all inputs)
Listening mode (w/ headphones)	**STEREO** (all inputs)
Sound mode	**OFF**
Dialog	**OFF**
Virtual Surround Back	**OFF**
Input signal select	**AUTO**
Speakers (Front, Center, Surround) Setting	Automatically sensed
Subwoofer setting	**200 Hz**
LFE Attenuator	**0 dB**
Front speaker distance	**2.0 m**
Center speaker distance	**2.0 m**
Surround speaker distance	**2.0 m**
Dynamic Range Control	**OFF**
Dual Mono	**ch1**
Input Attenuator	**OFF** (all inputs)
DVD(STB) COAX jack assignment	**DVD**
STB(DVD) OPT1 jack assignment	**STB**
Setting the volume level of each channel	Front: **0 dB** Center: **0 dB** Surround: **0 dB** Subwoofer: **0 dB**
AV Direct setting	**MANUAL**
Auto Input Select setting	**MANUAL**
Room Setup	**M / MID**

Note

- The default settings for the remote control to control other components can be found in Using the remote control with other components.